

## 부록 2:

### 표준기상년 작성을 위한 소프트웨어 엔진

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*TMY.SAS *;
*WRITTEN BY : S.M.HAN *;
* Graduate College of Hanyang University *;
*TO: (1) Read raw data *;
* (2) Interpolate values and output to an arranged data file*;
* (3) Calculate maximum, minimum, average and total values *;
* (4) Output to data files by variable *;
*****;

OPTIONS NODATE NONUMBER;
*-----*;
* Read raw data from 'c:\Seoul.dat' *;
*-----*;
DATA data01; INFILE 'c:\temp1\Seoul.dat' LRECL=580;
INPUT year 7-10 month 11-15 date 16-20 db03 21-25 db06 26-30 db09 31-35 db12 36-40 db15 41-45 db18 46-50
db21 51-55 db24 56-60
wv01 181-185 wv02 186-190 wv03 191-195 wv04 196-200 wv05 201-205 wv06 206-210 wv07 211-215 wv08 216-220
wv09 221-225
wv10 226-230 wv11 231-235 wv12 236-240 wv13 241-245 wv14 246-250 wv15 251-255 wv16 256-260 wv17 261-265
wv18 266-270
wv19 271-275 wv20 276-280 wv21 281-285 wv22 286-290 wv23 291-295 wv24 296-300 dp03 341-345 dp06 346-350
dp09 351-355
dp12 356-360 dp15 361-365 dp18 366-370 dp21 371-375 dp24 376-380 sr05 461-465 sr06 466-470 sr07 471-475
sr08 476-480
sr09 481-485 sr10 486-490 sr11 491-495 sr12 496-500 sr13 501-505 sr14 506-510 sr15 511-515 sr16 516-520
sr17 521-525
sr18 526-530 sr19 531-535 sr20 536-540;
*-----*;
* Interpolate three-hourly values and Output to an arranged file *;
*-----*;
DATA data02;SET data01;
IF db06=. THEN db06=(db03+db09)/2; IF db12=. THEN db12=(db09+db15)/2; IF db18=. THEN db18=(db15+db21)/2;
IF db24=. THEN db24=(db21+db03)/2; IF dp06=. THEN dp06=(dp03+dp09)/2; IF dp12=. THEN dp12=(dp09+dp15)/2;
IF dp18=. THEN dp18=(dp15+dp21)/2; IF dp24=. THEN dp24=(dp21+dp03)/2;
db04=(db03*2+db06)/3;db05=(db03+db06*2)/3;db07=(db06*2+db09)/3;db08=(db06+db09*2)/3;
db10=(db09*2+db12)/3;
db11=(db09+db12*2)/3;db13=(db12*2+db15)/3;db14=(db12+db15*2)/3;db16=(db15*2+db18)/3;
db17=(db15+db18*2)/3;
db19=(db18*2+db21)/3;db20=(db18+db21*2)/3;db22=(db21*2+db24)/3;db23=(db21+db24*2)/3;
db01=(db24*2+db03)/3;
db02=(db24+db03*2)/3;dp04=(dp03*2+dp06)/3;dp05=(dp03+dp06*2)/3;dp07=(dp06*2+dp09)/3;
dp08=(dp06+dp09*2)/3;
dp10=(dp09*2+dp12)/3;dp11=(dp09+dp12*2)/3;dp13=(dp12*2+dp15)/3;dp14=(dp12+dp15*2)/3;
dp16=(dp15*2+dp18)/3;
dp17=(dp15+dp18*2)/3;dp19=(dp18*2+dp21)/3;dp20=(dp18+dp21*2)/3;dp22=(dp21*2+dp24)/3;
dp23=(dp21+dp24*2)/3;
dp01=(dp24*2+dp03)/3; dp02=(dp24+dp03*2)/3;
FILE 'c:\temp1\Seoul20.dat';
PUT year 1-4 month 6-7 date 9-10
db03 12-16db 04 18-22 db05 24-28 db06 30-34 db07 36-40 db08 42-46 db09 48-52 db10 54-58 db11 60-64
db12 66-70 db13 72-76 db14 78-82 db15 84-88 db16 90-94 db17 98-102 db18 104-108 db19 110-114 db20 116-
120 db21 122-126 b22 128-132 db23 134-138 db24 140-144 db01 146-150 db02 152-156 wv01 158-162 wv02 164-
168 wv03 170-174 wv04 176-180 wv05 182-186 wv06 188-192 wv07 194-198 wv08 200-204 wv09 206-210 wv10 212-
216 wv11 218-222 wv12 224-228 wv13 230-234 wv14 236-240 wv15 242-246 wv16 248-252 wv17 254-258 wv18 260-
264 wv19 266-270 wv20 272-276 wv21 278-282 wv22 284-288 wv23 290-294 wv24 296-300 dp03 302-306 dp04 308-
312 dp05 314-318 dp06 320-324 dp07 326-330 dp08 332-336 dp09 338-342 dp10 344-348 dp11 352-356 dp12 358-
362 dp13 364-368 dp14 370-374 dp15 376-380 dp16 382-386 dp17 388-392 dp18 394-398 dp19 400-404 dp20 406-
410 dp21 412-416 dp22 418-422 dp23 424-428 dp24 430-434 dp01 436-440 dp02 442-446 sr05 448-452 sr06 454-
458 sr07 460-464 sr08 466-470 sr09 472-476 sr10 478-482 sr11 484-488 sr12 490-494 sr13 496-500 sr14 502-
506 sr15 508-512 sr16 514-518 sr17 520-524 sr18 526-530 sr19 532-536 sr20 538-542;
*-----*;
* Calculate maximum, minimum, average and total values *;
*-----*;
DATA data03; INFILE 'c:\temp1\Seoul20.dat';
INPUT year month date db03 db04 db05 db06 db07 db08 db09 db10 db11 db12 db13 db14 db15 db16 db17 db18
db19 db20 db21 db22 db23 db24 db01 db02 wv01 wv02 wv03 wv04 wv05 wv06 wv07 wv08 wv09 wv10 wv11 wv12 wv13
wv14 wv15 wv16 wv17 wv18 wv19 wv20 wv21 wv22 wv23 wv24 dp03 dp04 dp05 dp06 dp07 dp08 dp09 dp10 dp11 dp12
dp13 dp14 dp15 dp16 dp17 dp18 dp19 dp20 dp21 dp22 dp23 dp24 dp01 dp02 sr05 sr06 sr07 sr08 sr09 sr10 sr11
sr12 sr13 sr14 sr15 sr16 sr17 sr18 sr19 sr20;
db_max=MAX(db03, db04, db05, db06, db07, db08, db09, db10, db11, db12, db13, db14, db15, db16, db17,
db18, db19, db20, db21, db22, db23, db24, db01, db02)+.2;
db_min=MIN(db03, db04, db05, db06, db07, db08, db09, db10, db11, db12, db13, db14, db15, db16, db17,

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db18, db19, db20, db21, db22, db23, db24, db01, db02)+.2;
db_ave=MEAN(db03, db04, db05, db06, db07, db08, db09, db10, db11, db12, db13, db14, db15, db16, db17,
db18, db19, db20, db21, db22, db23, db24, db01, db02)+.2;
dp_max=MAX(dp03, dp04, dp05, dp06, dp07, dp08, dp09, dp10, dp11, dp12, dp13, dp14, dp15, dp16, dp17,
dp18, dp19, dp20, dp21, dp22, dp23, dp24, dp01, dp02)+.2;
dp_min=MIN(dp03, dp04, dp05, dp06, dp07, dp08, dp09, dp10, dp11, dp12, dp13, dp14, dp15, dp16, dp17,
dp18, dp19, dp20, dp21, dp22, dp23, dp24, dp01, dp02)+.2;
dp_ave=MEAN(dp03, dp04, dp05, dp06, dp07, dp08, dp09, dp10, dp11, dp12, dp13, dp14, dp15, dp16, dp17,
dp18, dp19, dp20, dp21, dp22, dp23, dp24, dp01, dp02)+.2;
wv_max=MAX(wv03, wv04, wv05, wv06, wv07, wv08, wv09, wv10, wv11, wv12, wv13, wv14, wv15, wv16, wv17,
wv18, wv19, wv20, wv21, wv22, wv23, wv24, wv01, wv02);
wv_min=MIN(wv03, wv04, wv05, wv06, wv07, wv08, wv09, wv10, wv11, wv12, wv13, wv14, wv15, wv16, wv17,
wv18, wv19, wv20, wv21, wv22, wv23, wv24, wv01, wv02);
wv_ave=MEAN(wv03, wv04, wv05, wv06, wv07, wv08, wv09, wv10, wv11, wv12, wv13, wv14, wv15, wv16, wv17,
wv18, wv19, wv20, wv21, wv22, wv23, wv24, wv01, wv02);
sr_tot=SUM(sr05, sr06, sr07, sr08, sr09, sr10, sr11, sr12, sr13, sr14, sr15, sr16, sr17, sr18, sr19,
sr20);
FILE 'c:\templ\tmybase.dat';
PUT year month date db_max db_min db_ave dp_max dp_min dp_ave wv_max wv_min wv_ave sr_tot; run;
*-----*;
* Output to data files by variable *;
*-----*;
DATA base; INFILE 'c:\templ\tmybase.dat';
INPUT year month date db_max db_min db_ave dp_max dp_min dp_ave wv_max wv_min wv_ave sr_tot;
PUT year 1-4 date 6-9 date 11-12 db_max 14-19 db_min 21-26 db_ave 28-33 dp_max 35-40 dp_min 42-47
dp_ave 49-54 wv_max 56-61 wv_min 63-68 wv_ave 70-75 sr_tot 77-82; run;
data maxdb; set base; file 'c:\templ\maxdb.dat'; put year 1-4 month 6-9 date 14-19 db_max 21-26; run;
data mindb; set base; file 'c:\templ\mindb.dat'; put year 1-4 month 6-9 date 14-19 db_min 21-26; run;
data avedb; set base; file 'c:\templ\avedb.dat'; put year 1-4 month 6-9 date 14-19 db_ave 21-26; run;
data maxdp; set base; file 'c:\templ\maxdp.dat'; put year 1-4 month 6-9 date 14-19 dp_max 21-26; run;
data mindp; set base; file 'c:\templ\mindp.dat'; put year 1-4 month 6-9 date 14-19 dp_min 21-26; run;
data avedp; set base; file 'c:\templ\avedp.dat'; put year 1-4 month 6-9 date 14-19 dp_ave 21-26; run;
data maxwv; set base; file 'c:\templ\maxwv.dat'; put year 1-4 month 6-9 date 14-19 wv_max 21-26; run;
data minwv; set base; file 'c:\templ\minwv.dat'; put year 1-4 month 6-9 date 14-19 wv_min 21-26; run;
data avevw; set base; file 'c:\templ\avevw.dat'; put year 1-4 month 6-9 date 14-19 wv_ave 21-26; run;
data srtot; set base; file 'c:\templ\srtot.dat'; put year 1-4 month 6-9 date 14-19 sr_tot 21-26; run;
*****;
* Calculate to db data *;
* TO: (1) Read data from data files *;
* (2) Sorting data by month and year *;
* (3) Calculate CDFs by using the equation *;
*****;
OPTIONS NODATE NONUMBER;
DATA cdfdbmax; INFILE 'c:\templ\maxdb.dat'; INPUT year month date db_max; RUN;
DATA cdfdbmin; INFILE 'c:\templ\mindb.dat'; INPUT year month date db_min; RUN;
DATA cdfdbave; INFILE 'c:\templ\avedb.dat'; INPUT year month date db_ave; RUN;
DATA dbdata; merge cdfdbmax cdfdbmin cdfdbave; run;
DATA longdb1 longdb2 longdb3 longdb4 longdb5 longdb6 longdb7 longdb8 longdb9 longdb10 longdb11 longdb12;
set dbdata;
if month=1 then output longdb1; if month=2 then output longdb2; if month=3 then output longdb3;
if month=4 then output longdb4; if month=5 then output longdb5; if month=6 then output longdb6;
if month=7 then output longdb7; if month=8 then output longdb8; if month=9 then output longdb9;
if month=10 then output longdb10; if month=11 then output longdb11; if month=12 then output longdb12;
run;
proc sort data=longdb1 out=s_lo1_1; by db_max; run; proc sort data=longdb2 out=s_lo1_2; by db_max; run;
proc sort data=longdb3 out=s_lo1_3; by db_max; run; proc sort data=longdb4 out=s_lo1_4; by db_max; run;
proc sort data=longdb5 out=s_lo1_5; by db_max; run; proc sort data=longdb6 out=s_lo1_6; by db_max; run;
proc sort data=longdb7 out=s_lo1_7; by db_max; run; proc sort data=longdb8 out=s_lo1_8; by db_max; run;
proc sort data=longdb9 out=s_lo1_9; by db_max; run; proc sort data=longdb10 out=s_lo1_10; by db_max;
run;
proc sort data=longdb11 out=s_lo1_11; by db_max; run; proc sort data=longdb12 out=s_lo1_12; by db_max;
run;
proc sort data=longdb1 out=s_lo2_1; by db_min; run; proc sort data=longdb2 out=s_lo2_2; by db_min; run;
proc sort data=longdb3 out=s_lo2_3; by db_min; run; proc sort data=longdb4 out=s_lo2_4; by db_min; run;
proc sort data=longdb5 out=s_lo2_5; by db_min; run; proc sort data=longdb6 out=s_lo2_6; by db_min; run;
proc sort data=longdb7 out=s_lo2_7; by db_min; run; proc sort data=longdb8 out=s_lo2_8; by db_min; run;
proc sort data=longdb9 out=s_lo2_9; by db_min; run; proc sort data=longdb10 out=s_lo2_10; by db_min;
run;
proc sort data=longdb11 out=s_lo2_11; by db_min; run; proc sort data=longdb12 out=s_lo2_12; by db_min;
run;
proc sort data=longdb1 out=s_lo3_1; by db_ave; run; proc sort data=longdb2 out=s_lo3_2; by db_ave; run;
proc sort data=longdb3 out=s_lo3_3; by db_ave; run; proc sort data=longdb4 out=s_lo3_4; by db_ave; run;
proc sort data=longdb5 out=s_lo3_5; by db_ave; run; proc sort data=longdb6 out=s_lo3_6; by db_ave; run;

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proc sort data=longdb7 out=s_lo3_7; by db_ave; run; proc sort data=longdb8 out=s_lo3_8; by db_ave; run;
proc sort data=longdb9 out=s_lo3_9; by db_ave; run; proc sort data=longdb10 out=s_lo3_10; by db_ave;
run;
proc sort data=longdb11 out=s_lo3_11; by db_ave; run; proc sort data=longdb12 out=s_lo3_12; by db_ave;
run;
DATA c_lo1_1; set s_lo1_1; N=620;k=N_; cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_2; set s_lo1_2; N=565;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_3; set s_lo1_3; N=620;k=N_; cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_4; set s_lo1_4; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_5; set s_lo1_5; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_6; set s_lo1_6; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_7; set s_lo1_7; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_8; set s_lo1_8; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_9; set s_lo1_9; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_10; set s_lo1_10; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_11; set s_lo1_11; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo1_12; set s_lo1_12; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_maxdb_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_1; set s_lo2_1; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_2; set s_lo2_2; N=565;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_3; set s_lo2_3; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_4; set s_lo2_4; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_5; set s_lo2_5; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_6; set s_lo2_6; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_7; set s_lo2_7; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_8; set s_lo2_8; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_9; set s_lo2_9; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_10; set s_lo2_10; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_11; set s_lo2_11; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo2_12; set s_lo2_12; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_mindb_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_1; set s_lo3_1; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_2; set s_lo3_2; N=565;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_3; set s_lo3_3; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_4; set s_lo3_4; N=600;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_5; set s_lo3_5; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_6; set s_lo3_6;N=600; k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_7; set s_lo3_7; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_8; set s_lo3_8; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_9; set s_lo3_9;N=600; k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_10; set s_lo3_10; N=620;k=N_;cdf=k/(N+1); FILE 'c:\templ\cdf\db\cdf_avedb_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;

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DATA c_lo3_11; set s_lo3_11; N=600;k=_N;cdf=k/(N+1); FILE 'c:\temp1\cdf\db\cdf_avedb_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
DATA c_lo3_12; set s_lo3_12; N=620;k=_N;cdf=k/(N+1); FILE 'c:\temp1\cdf\db\cdf_avedb_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5; run;
*****;
* Calculate to dp data *;
* TO:(1) Read data from data files *;
* (2) Sorting data by month and year *;
* (3) Calculate CDFs by using the equation *;
*****;
OPTIONS NODATE NONUMBER;
DATA cdfdpmax;INFILE 'c:\temp1\maxdp.dat';INPUT year month date dp_max;RUN;
DATA cdfdpmin;INFILE 'c:\temp1\mindp.dat';INPUT year month date dp_min;RUN;
DATA cdfdpave;INFILE 'c:\temp1\avedp.dat';INPUT year month date dp_ave;RUN;
DATA dpdata;merge cdfdpmax cdfdpmin cdfdpave;run;
DATA longdp1 longdp2 longdp3 longdp4 longdp5 longdp6 longdp7 longdp8 longdp9 longdp10 longdp11
longdp12;set dpdata;
if month=1 then output longdp1;if month=2 then output longdp2;if month=3 then output longdp3;if
month=4 then output longdp4;
if month=5 then output longdp5;if month=6 then output longdp6;if month=7 then output longdp7;if
month=8 then output longdp8;
if month=9 then output longdp9;if month=10 then output longdp10;if month=11 then output longdp11;
if month=12 then output longdp12;run;
proc sort data=longdp1 out=s_lo1_1; by dp_max; run;proc sort data=longdp2 out=s_lo1_2; by dp_max; run;
proc sort data=longdp3 out=s_lo1_3; by dp_max; run;proc sort data=longdp4 out=s_lo1_4; by dp_max; run;
proc sort data=longdp5 out=s_lo1_5; by dp_max; run;proc sort data=longdp6 out=s_lo1_6; by dp_max; run;
proc sort data=longdp7 out=s_lo1_7; by dp_max; run;proc sort data=longdp8 out=s_lo1_8; by dp_max; run;
proc sort data=longdp9 out=s_lo1_9; by dp_max; run;proc sort data=longdp10 out=s_lo1_10; by dp_max; run;
proc sort data=longdp11 out=s_lo1_11; by dp_max; run;proc sort data=longdp12 out=s_lo1_12; by dp_max;
run;
proc sort data=longdp1 out=s_lo2_1; by dp_min; run;proc sort data=longdp2 out=s_lo2_2; by dp_min; run;
proc sort data=longdp3 out=s_lo2_3; by dp_min; run;proc sort data=longdp4 out=s_lo2_4; by dp_min; run;
proc sort data=longdp5 out=s_lo2_5; by dp_min; run;proc sort data=longdp6 out=s_lo2_6; by dp_min; run;
proc sort data=longdp7 out=s_lo2_7; by dp_min; run;proc sort data=longdp8 out=s_lo2_8; by dp_min; run;
proc sort data=longdp9 out=s_lo2_9; by dp_min; run;proc sort data=longdp10 out=s_lo2_10; by dp_min; run;
proc sort data=longdp11 out=s_lo2_11; by dp_min; run;proc sort data=longdp12 out=s_lo2_12; by dp_min;
run;
proc sort data=longdp1 out=s_lo3_1; by dp_ave; run;proc sort data=longdp2 out=s_lo3_2; by dp_ave; run;
proc sort data=longdp3 out=s_lo3_3; by dp_ave; run;proc sort data=longdp4 out=s_lo3_4; by dp_ave; run;
proc sort data=longdp5 out=s_lo3_5; by dp_ave; run;proc sort data=longdp6 out=s_lo3_6; by dp_ave; run;
proc sort data=longdp7 out=s_lo3_7; by dp_ave; run;proc sort data=longdp8 out=s_lo3_8; by dp_ave; run;
proc sort data=longdp9 out=s_lo3_9; by dp_ave; run;proc sort data=longdp10 out=s_lo3_10; by dp_ave; run;
proc sort data=longdp11 out=s_lo3_11; by dp_ave; run;proc sort data=longdp12 out=s_lo3_12; by dp_ave;
run;
DATA c_lo1_1;set s_lo1_1;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_2;set s_lo1_2;N=565;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_3;set s_lo1_3;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_4;set s_lo1_4;N=600;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_5;set s_lo1_5;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_6;set s_lo1_6;N=600;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_7;set s_lo1_7;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_8;set s_lo1_8;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_9;set s_lo1_9;N=600;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_10;set s_lo1_10;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_11;set s_lo1_11;N=600;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_12;set s_lo1_12;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_maxdp_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_1;set s_lo2_1;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_2;set s_lo2_2;N=565;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_3;set s_lo2_3;N=620;k=_N;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_03.dat';

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PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_4;set s_lo2_4;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_5;set s_lo2_5;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_6;set s_lo2_6;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_7;set s_lo2_7;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_8;set s_lo2_8;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_9;set s_lo2_9;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_10;set s_lo2_10;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_11;set s_lo2_11;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_12;set s_lo2_12;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_mindp_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_1;set s_lo3_1;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_2;set s_lo3_2;N=565;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_3;set s_lo3_3;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_4;set s_lo3_4;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_5;set s_lo3_5;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_6;set s_lo3_6;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_7;set s_lo3_7;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_8;set s_lo3_8;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_9;set s_lo3_9;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_10;set s_lo3_10;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_11;set s_lo3_11;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_12;set s_lo3_12;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\dp\cdf_avedp_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
*****;
* Calculate to srtot data *;
* TO:(1) Read data from data files *;
* (2) Sorting data by month and year *;
* (3) Calculate CDFs by using the equation *;
*****;
OPTIONS NODATE NONUMBER;
DATA cdfsrtot;INFILE 'c:\temp1\srtot.dat';INPUT year month date sr_tot;RUN;
DATA long1_1 long1_2 long1_3 long1_4 long1_5 long1_6 long1_7 long1_8 long1_9 long1_10 long1_11
long1_12;set cdfsrtot;
if month=1 then output long1_1;if month=2 then output long1_2;if month=3 then output long1_3;if
month=4 then output long1_4;
if month=5 then output long1_5;if month=6 then output long1_6;if month=7 then output long1_7;if
month=8 then output long1_8;
if month=9 then output long1_9;if month=10 then output long1_10;if month=11 then output long1_11;
if month=12 then output long1_12;run;
proc sort data=long1_1 out=s_lo1_1; by sr_tot; run;proc sort data=long1_2 out=s_lo1_2; by sr_tot; run;
proc sort data=long1_3 out=s_lo1_3; by sr_tot; run;proc sort data=long1_4 out=s_lo1_4; by sr_tot; run;
proc sort data=long1_5 out=s_lo1_5; by sr_tot; run;proc sort data=long1_6 out=s_lo1_6; by sr_tot; run;
proc sort data=long1_7 out=s_lo1_7; by sr_tot; run;proc sort data=long1_8 out=s_lo1_8; by sr_tot; run;
proc sort data=long1_9 out=s_lo1_9; by sr_tot; run;proc sort data=long1_10 out=s_lo1_10; by sr_tot; run;
proc sort data=long1_11 out=s_lo1_11; by sr_tot; run;proc sort data=long1_12 out=s_lo1_12; by sr_tot;
run;
DATA c_lo1_1;set s_lo1_1;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_2;set s_lo1_2;N=565;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_3;set s_lo1_3;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_4;set s_lo1_4;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_04.dat';

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PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_5;set s_lo1_5;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_6;set s_lo1_6;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_7;set s_lo1_7;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_8;set s_lo1_8;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_9;set s_lo1_9;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_10;set s_lo1_10;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_11;set s_lo1_11;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_12;set s_lo1_12;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\sr\cdf_srtot_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
*****;
* Calculate to wv data *;
* TO:(1) Read data from data files *;
* (2) Sorting data by month and year *;
* (3) Calculate CDFs by using the equation *;
*****;
OPTIONS NODATE NONUMBER;
DATA cdfwvmax;INFILE 'c:\temp1\maxwv.dat';INPUT year month date wv_max;RUN;
DATA cdfwvmin;INFILE 'c:\temp1\minwv.dat';INPUT year month date wv_min;RUN;
DATA cdfwvave;INFILE 'c:\temp1\avewv.dat';INPUT year month date wv_ave;RUN;
DATA wvdata;merge cdfwvmax cdfwvmin cdfwvave;run;
DATA longwv1 longwv2 longwv3 longwv4 longwv5 longwv6 longwv7 longwv8 longwv9 longwv10 longwv11
longwv12;set wvdata;
if month=1 then output longwv1;if month=2 then output longwv2;if month=3 then output longwv3;if
month=4 then output longwv4;
if month=5 then output longwv5;if month=6 then output longwv6;if month=7 then output longwv7;if
month=8 then output longwv8;
if month=9 then output longwv9;if month=10 then output longwv10;if month=11 then output longwv11;
if month=12 then output longwv12;run;
proc sort data=longwv1 out=s_lo1_1; by wv_max; run;proc sort data=longwv2 out=s_lo1_2; by wv_max; run;
proc sort data=longwv3 out=s_lo1_3; by wv_max; run;proc sort data=longwv4 out=s_lo1_4; by wv_max; run;
proc sort data=longwv5 out=s_lo1_5; by wv_max; run;proc sort data=longwv6 out=s_lo1_6; by wv_max; run;
proc sort data=longwv7 out=s_lo1_7; by wv_max; run;proc sort data=longwv8 out=s_lo1_8; by wv_max; run;
proc sort data=longwv9 out=s_lo1_9; by wv_max; run;proc sort data=longwv10 out=s_lo1_10; by wv_max; run;
proc sort data=longwv11 out=s_lo1_11; by wv_max; run;proc sort data=longwv12 out=s_lo1_12; by wv_max;
run;
proc sort data=longwv1 out=s_lo2_1; by wv_min; run;proc sort data=longwv2 out=s_lo2_2; by wv_min; run;
proc sort data=longwv3 out=s_lo2_3; by wv_min; run;proc sort data=longwv4 out=s_lo2_4; by wv_min; run;
proc sort data=longwv5 out=s_lo2_5; by wv_min; run;proc sort data=longwv6 out=s_lo2_6; by wv_min; run;
proc sort data=longwv7 out=s_lo2_7; by wv_min; run;proc sort data=longwv8 out=s_lo2_8; by wv_min; run;
proc sort data=longwv9 out=s_lo2_9; by wv_min; run;proc sort data=longwv10 out=s_lo2_10; by wv_min; run;
proc sort data=longwv11 out=s_lo2_11; by wv_min; run;proc sort data=longwv12 out=s_lo2_12; by wv_min;
run;
proc sort data=longwv1 out=s_lo3_1; by wv_ave; run;proc sort data=longwv2 out=s_lo3_2; by wv_ave; run;
proc sort data=longwv3 out=s_lo3_3; by wv_ave; run;proc sort data=longwv4 out=s_lo3_4; by wv_ave; run;
proc sort data=longwv5 out=s_lo3_5; by wv_ave; run;proc sort data=longwv6 out=s_lo3_6; by wv_ave; run;
proc sort data=longwv7 out=s_lo3_7; by wv_ave; run;proc sort data=longwv8 out=s_lo3_8; by wv_ave; run;
proc sort data=longwv9 out=s_lo3_9; by wv_ave; run;proc sort data=longwv10 out=s_lo3_10; by wv_ave; run;
proc sort data=longwv11 out=s_lo3_11; by wv_ave; run;proc sort data=longwv12 out=s_lo3_12; by wv_ave;
run;
DATA c_lo1_1;set s_lo1_1;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_2;set s_lo1_2;N=565;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_3;set s_lo1_3;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_4;set s_lo1_4;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_5;set s_lo1_5;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_6;set s_lo1_6;N=600;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_7;set s_lo1_7;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_8;set s_lo1_8;N=620;k=_N_;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;

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DATA c_lo1_9;set s_lo1_9,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_10;set s_lo1_10,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_11;set s_lo1_11,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo1_12;set s_lo1_12,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_maxwv_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_1;set s_lo2_1,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_2;set s_lo2_2,N=565;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_3;set s_lo2_3,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_4;set s_lo2_4,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_5;set s_lo2_5,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_6;set s_lo2_6,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_7;set s_lo2_7,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_8;set s_lo2_8,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_9;set s_lo2_9,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_10;set s_lo2_10,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_11;set s_lo2_11,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo2_12;set s_lo2_12,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_minwv_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_1;set s_lo3_1,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_01.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_2;set s_lo3_2,N=565;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_02.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_3;set s_lo3_3,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_03.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_4;set s_lo3_4,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_04.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_5;set s_lo3_5,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_05.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_6;set s_lo3_6,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_06.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_7;set s_lo3_7,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_07.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_8;set s_lo3_8,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_08.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_9;set s_lo3_9,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_09.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_10;set s_lo3_10,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_10.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_11;set s_lo3_11,N=600;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_11.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA c_lo3_12;set s_lo3_12,N=620;k=_N ;cdf=k/(N+1);FILE 'c:\temp1\cdf\wv\cdf_avewv_long_12.dat';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
*****
* Calculate to db data by month
*
* Type : year_month_Case
*
* Case : 1 is max, 2 is min and 3 is ave
*
* TO:(1) Read data from data files
*
* (2) Sorting data by month and year
*
* (3) Calculate CDFs by using the equation;
*****
OPTIONS NODATE NONUMBER;
DATA cdfdbmax;INFILE 'c:\temp1\maxdb.dat';INPUT year month date db_max;RUN;
DATA cdfdbmin;INFILE 'c:\temp1\mindb.dat';INPUT year month date db_min;RUN;
DATA cdfdbave;INFILE 'c:\temp1\avedb.dat';INPUT year month date db_ave;RUN;
DATA dbdata;merge cdfdbmax cdfdbmin cdfdbave;run;
DATA d77 d78 d79 d80 d81 d82 d83 d84 d85 d86 d87 d88 d89 d90 d91 d92 d93 d94 d95 d96;set dbdata;
if year=1977 then output d77;if year=1978 then output d78;if year=1979 then output d79;if year=1980 then
output d80;
if year=1981 then output d81;if year=1982 then output d82;if year=1983 then output d83;if year=1984 then

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output d84;
if year=1985 then output d85;if year=1986 then output d86;if year=1987 then output d87;if year=1988 then
output d88;
if year=1989 then output d89;if year=1990 then output d90;if year=1991 then output d91;if year=1992 then
output d92;
if year=1993 then output d93;if year=1994 then output d94;if year=1995 then output d95;if year=1996 then
output d96;run;
*****;
*      1977 year      *;
*****;
data d77_1 d77_2 d77_3 d77_4 d77_5 d77_6 d77_7 d77_8 d77_9 d77_10 d77_11 d77_12;set d77;
if month=1 then output d77_1;if month=2 then output d77_2;if month=3 then output d77_3;if month=4 then
output d77_4;
if month=5 then output d77_5;if month=6 then output d77_6;if month=7 then output d77_7;if month=8 then
output d77_8;
if month=9 then output d77_9;if month=10 then output d77_10;if month=11 then output d77_11;if month=12
then output d77_12;run;
proc sort data=d77_1 out=sd77_1_1; by month db_max; run;data i77_1_1;set
sd77_1_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_1_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_2 out=sd77_2_1; by month db_max; run;data i77_2_1;set
sd77_2_1;N=28;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_2_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_3 out=sd77_3_1; by month db_max; run;data i77_3_1;set
sd77_3_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_3_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_1; by month db_max; run;data i77_4_1;set
sd77_4_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_4_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_1; by month db_max; run;data i77_5_1;set
sd77_5_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_5_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_1; by month db_max; run;data i77_6_1;set
sd77_6_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_6_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_1; by month db_max; run;data i77_7_1;set
sd77_7_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_7_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_1; by month db_max; run;data i77_8_1;set
sd77_8_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_8_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_1; by month db_max; run;data i77_9_1;set
sd77_9_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_9_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_10_1; by month db_max; run;data i77_10_1;set
sd77_10_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_10_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_11_1; by month db_max; run;data i77_11_1;set
sd77_11_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_11_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_12_1; by month db_max; run;data i77_12_1;set
sd77_12_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_12_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_1 out=sd77_1_2; by month db_min; run;data i77_1_2;set
sd77_1_2;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_1_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_2 out=sd77_2_2; by month db_min; run;data i77_2_2;set
sd77_2_2;N=28;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_2_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_3 out=sd77_3_2; by month db_min; run;data i77_3_2;set
sd77_3_2;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_3_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_2; by month db_min; run;data i77_4_2;set
sd77_4_2;N=30;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_4_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_2; by month db_min; run;data i77_5_2;set
sd77_5_2;N=31;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_5_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_2; by month db_min; run;data i77_6_2;set
sd77_6_2;N=30;k=_N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_6_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;

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proc sort data=d77_7 out=sd77_7_2; by month db_min; run;data i77_7_2;set
sd77_7_2;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_7_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_2; by month db_min; run;data i77_8_2;set
sd77_8_2;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_8_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_2; by month db_min; run;data i77_9_2;set
sd77_9_2;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_9_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_10_2; by month db_min; run;data i77_10_2;set
sd77_10_2;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_10_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_11_2; by month db_min; run;data i77_11_2;set
sd77_11_2;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_11_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_12_2; by month db_min; run;data i77_12_2;set
sd77_12_2;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_12_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_1 out=sd77_1_3; by month db_ave; run;data i77_1_3;set
sd77_1_3;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_1_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_2 out=sd77_2_3; by month db_ave; run;data i77_2_3;set
sd77_2_3;N=28;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_2_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_3 out=sd77_3_3; by month db_ave; run;data i77_3_3;set
sd77_3_3;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_3_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_3; by month db_ave; run;data i77_4_3;set
sd77_4_3;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_4_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_3; by month db_ave; run;data i77_5_3;set
sd77_5_3;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_5_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_3; by month db_ave; run;data i77_6_3;set
sd77_6_3;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_6_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_3; by month db_ave; run;data i77_7_3;set
sd77_7_3;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_7_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_3; by month db_ave; run;data i77_8_3;set
sd77_8_3;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_8_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_3; by month db_ave; run;data i77_9_3;set
sd77_9_3;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_9_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_10_3; by month db_ave; run;data i77_10_3;set
sd77_10_3;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_10_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_11_3; by month db_ave; run;data i77_11_3;set
sd77_11_3;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_11_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_12_3; by month db_ave; run;data i77_12_3;set
sd77_12_3;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\db\month\db77_12_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;

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\* 1978~1996year : the same way as 1977year, but ,among data files, 77 should be changed as 78,79,80...96

```

*****;
* Calculate to dp data by month *;
* Type : year_month_Case *;
* Case : 1 is max, 2 is min and 3 is ave *;
* TO:(1) Read data from data files *;
* (2) Sorting data by month and year *;
* (3) Calculate CDFs by using the equation *;
*****;
OPTIONS NODATE NONUMBER;
DATA cdfdpmax;INFILE 'c:\templ\maxdp.dat';INPUT year month date dp_max;RUN;
DATA cdfdpmin;INFILE 'c:\templ\mindp.dat';INPUT year month date dp_min;RUN;
DATA cdfdpave;INFILE 'c:\templ\avedp.dat';INPUT year month date dp_ave;RUN;
DATA dpdata;merge cdfdpmax cdfdpmin cdfdpave;run;
DATA d77 d78 d79 d80 d81 d82 d83 d84 d85 d86 d87 d88 d89 d90 d91 d92 d93 d94 d95 d96;set dpdata;
if year=1977 then output d77;if year=1978 then output d78;if year=1979 then output d79;if year=1980 then
output d80;

```

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if year=1981 then output d81;if year=1982 then output d82;if year=1983 then output d83;if year=1984 then
output d84;
if year=1985 then output d85;if year=1986 then output d86;if year=1987 then output d87;if year=1988 then
output d88;
if year=1989 then output d89;if year=1990 then output d90;if year=1991 then output d91;if year=1992 then
output d92;
if year=1993 then output d93;if year=1994 then output d94;if year=1995 then output d95;if year=1996 then
output d96;run;
*****;
*      1977 year      *;
*****;
data d77_1 d77_2 d77_3 d77_4 d77_5 d77_6 d77_7 d77_8 d77_9 d77_10 d77_11 d77_12;set d77;
if month=1 then output d77_1;if month=2 then output d77_2;if month=3 then output d77_3;if month=4 then
output d77_4;
if month=5 then output d77_5;if month=6 then output d77_6;if month=7 then output d77_7;if month=8 then
output d77_8;
if month=9 then output d77_9;if month=10 then output d77_10;if month=11 then output d77_11;if month=12
then output d77_12;run;
proc sort data=d77_1 out=sd77_1_1; by month dp_max; run;data i77_1_1;set
sd77_1_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_1_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_2 out=sd77_2_1; by month dp_max; run;data i77_2_1;set
sd77_2_1;N=28;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_2_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_3 out=sd77_3_1; by month dp_max; run;data i77_3_1;set
sd77_3_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_3_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_1; by month dp_max; run;data i77_4_1;set
sd77_4_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_4_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_1; by month dp_max; run;data i77_5_1;set
sd77_5_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_5_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_1; by month dp_max; run;data i77_6_1;set
sd77_6_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_6_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_1; by month dp_max; run;data i77_7_1;set
sd77_7_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_7_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_1; by month dp_max; run;data i77_8_1;set
sd77_8_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_8_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_1; by month dp_max; run;data i77_9_1;set
sd77_9_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_9_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_10_1; by month dp_max; run;data i77_10_1;set
sd77_10_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_10_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_11_1; by month dp_max; run;data i77_11_1;set
sd77_11_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_11_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_12_1; by month dp_max; run;data i77_12_1;set
sd77_12_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_12_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_1 out=sd77_1_2; by month dp_min; run;data i77_1_2;set
sd77_1_2;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_1_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_2 out=sd77_2_2; by month dp_min; run;data i77_2_2;set
sd77_2_2;N=28;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_2_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_3 out=sd77_3_2; by month dp_min; run;data i77_3_2;set
sd77_3_2;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_3_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_2; by month dp_min; run;data i77_4_2;set
sd77_4_2;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_4_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_2; by month dp_min; run;data i77_5_2;set
sd77_5_2;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_5_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_2; by month dp_min; run;data i77_6_2;set
sd77_6_2;N=30;k= N_;cdf=k/(N+1);

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file 'c:\templ\cdf\dp\month\dp77_6_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_2; by month dp_min; run;data i77_7_2;set
sd77_7_2;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_7_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_2; by month dp_min; run;data i77_8_2;set
sd77_8_2;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_8_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_2; by month dp_min; run;data i77_9_2;set
sd77_9_2;N=30;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_9_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_102; by month dp_min; run;data i77_102;set
sd77_102;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_10_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_112; by month dp_min; run;data i77_112;set
sd77_112;N=30;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_11_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_122; by month dp_min; run;data i77_122;set
sd77_122;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_12_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_1 out=sd77_1_3; by month dp_ave; run;data i77_1_3;set
sd77_1_3;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_1_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_2 out=sd77_2_3; by month dp_ave; run;data i77_2_3;set
sd77_2_3;N=28;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_2_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_3 out=sd77_3_3; by month dp_ave; run;data i77_3_3;set
sd77_3_3;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_3_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_3; by month dp_ave; run;data i77_4_3;set
sd77_4_3;N=30;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_4_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_3; by month dp_ave; run;data i77_5_3;set
sd77_5_3;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_5_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_3; by month dp_ave; run;data i77_6_3;set
sd77_6_3;N=30;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_6_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_3; by month dp_ave; run;data i77_7_3;set
sd77_7_3;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_7_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_3; by month dp_ave; run;data i77_8_3;set
sd77_8_3;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_8_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_3; by month dp_ave; run;data i77_9_3;set
sd77_9_3;N=30;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_9_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_103; by month dp_ave; run;data i77_103;set
sd77_103;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_10_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_113; by month dp_ave; run;data i77_113;set
sd77_113;N=30;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_11_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_123; by month dp_ave; run;data i77_123;set
sd77_123;N=31;k= N_ ;cdf=k/(N+1);
file 'c:\templ\cdf\dp\month\dp77_12_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;

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※ 1978-1996year : the same way as 1977year, but ,among data files, 77 should be changed as 78,79,80...96

```

*****;
* Calculate to wv data by month *;
* Type : year_month_Case *;
* Case : 1 is max, 2 is min and 3 is ave *;
* TO:(1) Read data from data files *;
* (2) Sorting data by month and year *;
* (3) Calculate CDFs by using the equation*;
*****;
OPTIONS NODATE NONUMBER;
DATA cdfwvmax;INFILE 'c:\templ\maxwv.dat';INPUT year month date wv_max;RUN;
DATA cdfwvmin;INFILE 'c:\templ\minwv.dat';INPUT year month date wv_min;RUN;
DATA cdfwvave;INFILE 'c:\templ\avewv.dat';INPUT year month date wv_ave;RUN;
DATA wvdata;merge cdfwvmax cdfwvmin cdfwvave;run;
DATA d77 d78 d79 d80 d81 d82 d83 d84 d85 d86 d87 d88 d89 d90 d91 d92 d93 d94 d95 d96;set wvdata;
if year=1977 then output d77;if year=1978 then output d78;if year=1979 then output d79;if year=1980 then

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output d80;
if year=1981 then output d81;if year=1982 then output d82;if year=1983 then output d83;if year=1984 then
output d84;
if year=1985 then output d85;if year=1986 then output d86;if year=1987 then output d87;if year=1988 then
output d88;
if year=1989 then output d89;if year=1990 then output d90;if year=1991 then output d91;if year=1992 then
output d92;
if year=1993 then output d93;if year=1994 then output d94;if year=1995 then output d95;if year=1996 then
output d96;run;
*****;
*          1977 year          *;
*****;
data d77_1 d77_2 d77_3 d77_4 d77_5 d77_6 d77_7 d77_8 d77_9 d77_10 d77_11 d77_12;set d77;
if month=1 then output d77_1;if month=2 then output d77_2;if month=3 then output d77_3;if month=4 then
output d77_4;
if month=5 then output d77_5;if month=6 then output d77_6;if month=7 then output d77_7;if month=8 then
output d77_8;
if month=9 then output d77_9;if month=10 then output d77_10;if month=11 then output d77_11;if month=12
then output d77_12;run;
proc sort data=d77_1 out=sd77_1_1; by month wv_max; run;data i77_1_1;set
sd77_1_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_1_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_2 out=sd77_2_1; by month wv_max; run;data i77_2_1;set
sd77_2_1;N=28;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_2_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_3 out=sd77_3_1; by month wv_max; run;data i77_3_1;set
sd77_3_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_3_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_1; by month wv_max; run;data i77_4_1;set
sd77_4_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_4_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_1; by month wv_max; run;data i77_5_1;set
sd77_5_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_5_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_1; by month wv_max; run;data i77_6_1;set
sd77_6_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_6_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_1; by month wv_max; run;data i77_7_1;set
sd77_7_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_7_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_1; by month wv_max; run;data i77_8_1;set
sd77_8_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_8_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_1; by month wv_max; run;data i77_9_1;set
sd77_9_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_9_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_10_1; by month wv_max; run;data i77_10_1;set
sd77_10_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_10_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_11_1; by month wv_max; run;data i77_11_1;set
sd77_11_1;N=30;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_11_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_12_1; by month wv_max; run;data i77_12_1;set
sd77_12_1;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_12_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_1 out=sd77_1_2; by month wv_min; run;data i77_1_2;set
sd77_1_2;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_1_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_2 out=sd77_2_2; by month wv_min; run;data i77_2_2;set
sd77_2_2;N=28;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_2_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_3 out=sd77_3_2; by month wv_min; run;data i77_3_2;set
sd77_3_2;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_3_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_2; by month wv_min; run;data i77_4_2;set
sd77_4_2;N=30;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_4_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_2; by month wv_min; run;data i77_5_2;set
sd77_5_2;N=31;k=_N_;cdf=k/(N+1);
file 'c:\temp1\cdf\wv\month\wv77_5_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_2; by month wv_min; run;data i77_6_2;set

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sd77_6_2;N=30;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_6_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_2; by month wv_min; run;data i77_7_2;set
sd77_7_2;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_7_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_2; by month wv_min; run;data i77_8_2;set
sd77_8_2;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_8_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_2; by month wv_min; run;data i77_9_2;set
sd77_9_2;N=30;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_9_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_102; by month wv_min; run;data i77_102;set
sd77_102;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_10_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_112; by month wv_min; run;data i77_112;set
sd77_112;N=30;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_11_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_122; by month wv_min; run;data i77_122;set
sd77_122;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_12_min.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_1 out=sd77_1_3; by month wv_ave; run;data i77_1_3;set
sd77_1_3;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_1_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_2 out=sd77_2_3; by month wv_ave; run;data i77_2_3;set
sd77_2_3;N=28;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_2_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_3 out=sd77_3_3; by month wv_ave; run;data i77_3_3;set
sd77_3_3;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_3_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_3; by month wv_ave; run;data i77_4_3;set
sd77_4_3;N=30;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_4_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_3; by month wv_ave; run;data i77_5_3;set
sd77_5_3;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_5_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_3; by month wv_ave; run;data i77_6_3;set
sd77_6_3;N=30;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_6_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_3; by month wv_ave; run;data i77_7_3;set
sd77_7_3;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_7_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_3; by month wv_ave; run;data i77_8_3;set
sd77_8_3;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_8_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_3; by month wv_ave; run;data i77_9_3;set
sd77_9_3;N=30;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_9_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_103; by month wv_ave; run;data i77_103;set
sd77_103;N=31;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_10_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_113; by month wv_ave; run;data i77_113;set
sd77_113;N=30;k= N ;cdf=k/(N+1);
file 'c:\templ\cdf\wv\month\wv77_11_ave.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_123; by month wv_ave; run;data i77_123;set sd77_123;
N=31;k= N ;cdf=k/(N+1);file 'c:\templ\cdf\wv\month\wv77_12_ave.dat';PUT year 1-4 month 6-9 date 11-12
cdf 10.5 ;run;

```

\* 1978-1996year : the same way as 1977year, but ,among data files, 77 should be changed as 78,79,80...96

```

*****;
* Calculate to sr data by month *;
* Type : year_month_Case *;
* Case : 1 is max, 2 is min and 3 is ave *;
* TO:(1) Read data from data files *;
* (2) Sorting data by month and year *;
* (3) Calculate CDFs by using the equation*;
*****;
OPTIONS NODATE NONUMBER;
DATA cdfsrtot;INFILE 'c:\templ\srtot.dat';INPUT year month date sr_tot;RUN;
DATA d77 d78 d79 d80 d81 d82 d83 d84 d85 d86 d87 d88 d89 d90 d91 d92 d93 d94 d95 d96;set cdfsrtot;
if year=1977 then output d77;if year=1978 then output d78;if year=1979 then output d79;if year=1980 then
output d80;
if year=1981 then output d81;if year=1982 then output d82;if year=1983 then output d83;if year=1984 then

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output d84;
if year=1985 then output d85;if year=1986 then output d86;if year=1987 then output d87;if year=1988 then
output d88;
if year=1989 then output d89;if year=1990 then output d90;if year=1991 then output d91;if year=1992 then
output d92;
if year=1993 then output d93;if year=1994 then output d94;if year=1995 then output d95;if year=1996 then
output d96;run;
*****;
*      1977 year      *;
*****;
data d77_1 d77_2 d77_3 d77_4 d77_5 d77_6 d77_7 d77_8 d77_9 d77_10 d77_11 d77_12;set d77;
if month=1 then output d77_1;if month=2 then output d77_2;if month=3 then output d77_3;if month=4 then
output d77_4;
if month=5 then output d77_5;if month=6 then output d77_6;if month=7 then output d77_7;if month=8 then
output d77_8;
if month=9 then output d77_9;if month=10 then output d77_10;if month=11 then output d77_11;if month=12
then output d77_12;run;
proc sort data=d77_1 out=sd77_1_1; by month sr_tot; run;data i77_1_1;set
sd77_1_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_1_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_2 out=sd77_2_1; by month sr_tot; run;data i77_2_1;set
sd77_2_1;N=28;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_2_max.dat';PUT year 1-4 month 6-9 date 11-12 N 14-15 k 17-18 cdf
10.5 ;run;
proc sort data=d77_3 out=sd77_3_1; by month sr_tot; run;data i77_3_1;set
sd77_3_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_3_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_4 out=sd77_4_1; by month sr_tot; run;data i77_4_1;set
sd77_4_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_4_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_5 out=sd77_5_1; by month sr_tot; run;data i77_5_1;set
sd77_5_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_5_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_6 out=sd77_6_1; by month sr_tot; run;data i77_6_1;set
sd77_6_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_6_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_7 out=sd77_7_1; by month sr_tot; run;data i77_7_1;set
sd77_7_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_7_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_8 out=sd77_8_1; by month sr_tot; run;data i77_8_1;set
sd77_8_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_8_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_9 out=sd77_9_1; by month sr_tot; run;data i77_9_1;set
sd77_9_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_9_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_10 out=sd77_10_1; by month sr_tot; run;data i77_10_1;set
sd77_10_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_10_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_11 out=sd77_11_1; by month sr_tot; run;data i77_11_1;set
sd77_11_1;N=30;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_11_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;
proc sort data=d77_12 out=sd77_12_1; by month sr_tot; run;data i77_12_1;set
sd77_12_1;N=31;k= N_;cdf=k/(N+1);
file 'c:\templ\cdf\sr\month\sr77_12_max.dat';PUT year 1-4 month 6-9 date 11-12 cdf 10.5 ;run;

```

※ 1978-1996year : the same way as 1977year, but ,among data files, 77 should be changed as 78,79,80...96

```

*****;
*Joint the months of cdf *;
*****;
DATA m_1_1;set i 77_1_1 i78_1_1 i79_1_1 i80_1_1 i81_1_1 i82_1_1 i83_1_1 i84_1_1 i85_1_1 i86_1_1 i87_1_1
i88_1_1 i89_1_1 i90_1_1
i91_1_1 i92_1_1 i93_1_1 i94_1_1 i95_1_1 i96_1_1;FILE 'c:\templ\cdf\db\month\m_1_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_2_1;set i 77_2_1 i78_2_1 i79_2_1 i80_2_1 i81_2_1 i82_2_1 i83_2_1 i84_2_1 i85_2_1 i86_2_1 i87_2_1
i88_2_1 i89_2_1 i90_2_1
i91_2_1 i92_2_1 i93_2_1 i94_2_1 i95_2_1 i96_2_1;FILE 'c:\templ\cdf\db\month\m_2_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_3_1;set i 77_3_1 i78_3_1 i79_3_1 i80_3_1 i81_3_1 i82_3_1 i83_3_1 i84_3_1 i85_3_1 i86_3_1 i87_3_1
i88_3_1 i89_3_1 i90_3_1
i91_3_1 i92_3_1 i93_3_1 i94_3_1 i95_3_1 i96_3_1;FILE 'c:\templ\cdf\db\month\m_3_1';

```

```

PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_4_1;set i 77_4_1 i78_4_1 i79_4_1 i80_4_1 i81_4_1 i82_4_1 i83_4_1 i84_4_1 i85_4_1 i86_4_1 i87_4_1
i88_4_1 i89_4_1 i90_4_1
i91_4_1 i92_4_1 i93_4_1 i94_4_1 i95_4_1 i96_4_1;FILE 'c:\templ\cdf\db\month\m_4_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_5_1;set i 77_5_1 i78_5_1 i79_5_1 i80_5_1 i81_5_1 i82_5_1 i83_5_1 i84_5_1 i85_5_1 i86_5_1 i87_5_1
i88_5_1 i89_5_1 i90_5_1
i91_5_1 i92_5_1 i93_5_1 i94_5_1 i95_5_1 i96_5_1;FILE 'c:\templ\cdf\db\month\m_5_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_6_1;set i 77_6_1 i78_6_1 i79_6_1 i80_6_1 i81_6_1 i82_6_1 i83_6_1 i84_6_1 i85_6_1 i86_6_1 i87_6_1
i88_6_1 i89_6_1 i90_6_1
i91_6_1 i92_6_1 i93_6_1 i94_6_1 i95_6_1 i96_6_1;FILE 'c:\templ\cdf\db\month\m_6_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_7_1;set i 77_7_1 i78_7_1 i79_7_1 i80_7_1 i81_7_1 i82_7_1 i83_7_1 i84_7_1 i85_7_1 i86_7_1 i87_7_1
i88_7_1 i89_7_1 i90_7_1
i91_7_1 i92_7_1 i93_7_1 i94_7_1 i95_7_1 i96_7_1;FILE 'c:\templ\cdf\db\month\m_7_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_8_1;set i 77_8_1 i78_8_1 i79_8_1 i80_8_1 i81_8_1 i82_8_1 i83_8_1 i84_8_1 i85_8_1 i86_8_1 i87_8_1
i88_8_1 i89_8_1 i90_8_1
i91_8_1 i92_8_1 i93_8_1 i94_8_1 i95_8_1 i96_8_1;FILE 'c:\templ\cdf\db\month\m_8_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_9_1;set i 77_9_1 i78_9_1 i79_9_1 i80_9_1 i81_9_1 i82_9_1 i83_9_1 i84_9_1 i85_9_1 i86_9_1 i87_9_1
i88_9_1 i89_9_1 i90_9_1
i91_9_1 i92_9_1 i93_9_1 i94_9_1 i95_9_1 i96_9_1;FILE 'c:\templ\cdf\db\month\m_9_1';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_101;set i 77_101 i78_101 i79_101 i80_101 i81_101 i82_101 i83_101 i84_101 i85_101 i86_101 i87_101
i88_101 i89_101 i90_101
i91_101 i92_101 i93_101 i94_101 i95_101 i96_101;FILE 'c:\templ\cdf\db\month\m_101';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_111;set i 77_111 i78_111 i79_111 i80_111 i81_111 i82_111 i83_111 i84_111 i85_111 i86_111 i87_111
i88_111 i89_111 i90_111
i91_111 i92_111 i93_111 i94_111 i95_111 i96_111;FILE 'c:\templ\cdf\db\month\m_111';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_121;set i 77_121 i78_121 i79_121 i80_121 i81_121 i82_121 i83_121 i84_121 i85_121 i86_121 i87_121
i88_121 i89_121 i90_121
i91_121 i92_121 i93_121 i94_121 i95_121 i96_121;FILE 'c:\templ\cdf\db\month\m_121';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_1_2;set i 77_1_2 i78_1_2 i79_1_2 i80_1_2 i81_1_2 i82_1_2 i83_1_2 i84_1_2 i85_1_2 i86_1_2 i87_1_2
i88_1_2 i89_1_2 i90_1_2
i91_1_2 i92_1_2 i93_1_2 i94_1_2 i95_1_2 i96_1_2;FILE 'c:\templ\cdf\db\month\m_1_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_2_2;set i 77_2_2 i78_2_2 i79_2_2 i80_2_2 i81_2_2 i82_2_2 i83_2_2 i84_2_2 i85_2_2 i86_2_2 i87_2_2
i88_2_2 i89_2_2 i90_2_2
i91_2_2 i92_2_2 i93_2_2 i94_2_2 i95_2_2 i96_2_2;FILE 'c:\templ\cdf\db\month\m_2_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_3_2;set i 77_3_2 i78_3_2 i79_3_2 i80_3_2 i81_3_2 i82_3_2 i83_3_2 i84_3_2 i85_3_2 i86_3_2 i87_3_2
i88_3_2 i89_3_2 i90_3_2
i91_3_2 i92_3_2 i93_3_2 i94_3_2 i95_3_2 i96_3_2;FILE 'c:\templ\cdf\db\month\m_3_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_4_2;set i 77_4_2 i78_4_2 i79_4_2 i80_4_2 i81_4_2 i82_4_2 i83_4_2 i84_4_2 i85_4_2 i86_4_2 i87_4_2
i88_4_2 i89_4_2 i90_4_2
i91_4_2 i92_4_2 i93_4_2 i94_4_2 i95_4_2 i96_4_2;FILE 'c:\templ\cdf\db\month\m_4_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_5_2;set i 77_5_2 i78_5_2 i79_5_2 i80_5_2 i81_5_2 i82_5_2 i83_5_2 i84_5_2 i85_5_2 i86_5_2 i87_5_2
i88_5_2 i89_5_2 i90_5_2
i91_5_2 i92_5_2 i93_5_2 i94_5_2 i95_5_2 i96_5_2;FILE 'c:\templ\cdf\db\month\m_5_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_6_2;set i 77_6_2 i78_6_2 i79_6_2 i80_6_2 i81_6_2 i82_6_2 i83_6_2 i84_6_2 i85_6_2 i86_6_2 i87_6_2
i88_6_2 i89_6_2 i90_6_2
i91_6_2 i92_6_2 i93_6_2 i94_6_2 i95_6_2 i96_6_2;FILE 'c:\templ\cdf\db\month\m_6_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_7_2;set i 77_7_2 i78_7_2 i79_7_2 i80_7_2 i81_7_2 i82_7_2 i83_7_2 i84_7_2 i85_7_2 i86_7_2 i87_7_2
i88_7_2 i89_7_2 i90_7_2
i91_7_2 i92_7_2 i93_7_2 i94_7_2 i95_7_2 i96_7_2;FILE 'c:\templ\cdf\db\month\m_7_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_8_2;set i 77_8_2 i78_8_2 i79_8_2 i80_8_2 i81_8_2 i82_8_2 i83_8_2 i84_8_2 i85_8_2 i86_8_2 i87_8_2
i88_8_2 i89_8_2 i90_8_2
i91_8_2 i92_8_2 i93_8_2 i94_8_2 i95_8_2 i96_8_2;FILE 'c:\templ\cdf\db\month\m_8_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_9_2;set i 77_9_2 i78_9_2 i79_9_2 i80_9_2 i81_9_2 i82_9_2 i83_9_2 i84_9_2 i85_9_2 i86_9_2 i87_9_2
i88_9_2 i89_9_2 i90_9_2
i91_9_2 i92_9_2 i93_9_2 i94_9_2 i95_9_2 i96_9_2;FILE 'c:\templ\cdf\db\month\m_9_2';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;

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DATA m_102;set i 77_102 i78_102 i79_102 i80_102 i81_102 i82_102 i83_102 i84_102 i85_102 i86_102 i87_102
i88_102 i89_102 i90_102
i91_102 i92_102 i93_102 i94_102 i95_102 i96_102;FILE 'c:\templ\cdf\db\month\m_102';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_112;set i 77_112 i78_112 i79_112 i80_112 i81_112 i82_112 i83_112 i84_112 i85_112 i86_112 i87_112
i88_112 i89_112 i90_112
i91_112 i92_112 i93_112 i94_112 i95_112 i96_112;FILE 'c:\templ\cdf\db\month\m_112';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_122;set i 77_122 i78_122 i79_122 i80_122 i81_122 i82_122 i83_122 i84_122 i85_122 i86_122 i87_122
i88_122 i89_122 i90_122
i91_122 i92_122 i93_122 i94_122 i95_122 i96_122;FILE 'c:\templ\cdf\db\month\m_122';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_1_3;set i 77_1_3 i78_1_3 i79_1_3 i80_1_3 i81_1_3 i82_1_3 i83_1_3 i84_1_3 i85_1_3 i86_1_3 i87_1_3
i88_1_3 i89_1_3 i90_1_3
i91_1_3 i92_1_3 i93_1_3 i94_1_3 i95_1_3 i96_1_3;FILE 'c:\templ\cdf\db\month\m_1_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_2_3;set i 77_2_3 i78_2_3 i79_2_3 i80_2_3 i81_2_3 i82_2_3 i83_2_3 i84_2_3 i85_2_3 i86_2_3 i87_2_3
i88_2_3 i89_2_3 i90_2_3
i91_2_3 i92_2_3 i93_2_3 i94_2_3 i95_2_3 i96_2_3;FILE 'c:\templ\cdf\db\month\m_2_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_3_3;set i 77_3_3 i78_3_3 i79_3_3 i80_3_3 i81_3_3 i82_3_3 i83_3_3 i84_3_3 i85_3_3 i86_3_3 i87_3_3
i88_3_3 i89_3_3 i90_3_3
i91_3_3 i92_3_3 i93_3_3 i94_3_3 i95_3_3 i96_3_3;FILE 'c:\templ\cdf\db\month\m_3_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_4_3;set i 77_4_3 i78_4_3 i79_4_3 i80_4_3 i81_4_3 i82_4_3 i83_4_3 i84_4_3 i85_4_3 i86_4_3 i87_4_3
i88_4_3 i89_4_3 i90_4_3
i91_4_3 i92_4_3 i93_4_3 i94_4_3 i95_4_3 i96_4_3;FILE 'c:\templ\cdf\db\month\m_4_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_5_3;set i 77_5_3 i78_5_3 i79_5_3 i80_5_3 i81_5_3 i82_5_3 i83_5_3 i84_5_3 i85_5_3 i86_5_3 i87_5_3
i88_5_3 i89_5_3 i90_5_3
i91_5_3 i92_5_3 i93_5_3 i94_5_3 i95_5_3 i96_5_3;FILE 'c:\templ\cdf\db\month\m_5_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_6_3;set i 77_6_3 i78_6_3 i79_6_3 i80_6_3 i81_6_3 i82_6_3 i83_6_3 i84_6_3 i85_6_3 i86_6_3 i87_6_3
i88_6_3 i89_6_3 i90_6_3
i91_6_3 i92_6_3 i93_6_3 i94_6_3 i95_6_3 i96_6_3;FILE 'c:\templ\cdf\db\month\m_6_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_7_3;set i 77_7_3 i78_7_3 i79_7_3 i80_7_3 i81_7_3 i82_7_3 i83_7_3 i84_7_3 i85_7_3 i86_7_3 i87_7_3
i88_7_3 i89_7_3 i90_7_3
i91_7_3 i92_7_3 i93_7_3 i94_7_3 i95_7_3 i96_7_3;FILE 'c:\templ\cdf\db\month\m_7_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_8_3;set i 77_8_3 i78_8_3 i79_8_3 i80_8_3 i81_8_3 i82_8_3 i83_8_3 i84_8_3 i85_8_3 i86_8_3 i87_8_3
i88_8_3 i89_8_3 i90_8_3
i91_8_3 i92_8_3 i93_8_3 i94_8_3 i95_8_3 i96_8_3;FILE 'c:\templ\cdf\db\month\m_8_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_9_3;set i 77_9_3 i78_9_3 i79_9_3 i80_9_3 i81_9_3 i82_9_3 i83_9_3 i84_9_3 i85_9_3 i86_9_3 i87_9_3
i88_9_3 i89_9_3 i90_9_3
i91_9_3 i92_9_3 i93_9_3 i94_9_3 i95_9_3 i96_9_3;FILE 'c:\templ\cdf\db\month\m_9_3';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_103;set i 77_103 i78_103 i79_103 i80_103 i81_103 i82_103 i83_103 i84_103 i85_103 i86_103 i87_103
i88_103 i89_103 i90_103
i91_103 i92_103 i93_103 i94_103 i95_103 i96_103;FILE 'c:\templ\cdf\db\month\m_103';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_113;set i 77_113 i78_113 i79_113 i80_113 i81_113 i82_113 i83_113 i84_113 i85_113 i86_113 i87_113
i88_113 i89_113 i90_113
i91_113 i92_113 i93_113 i94_113 i95_113 i96_113;FILE 'c:\templ\cdf\db\month\m_113';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;
DATA m_123;set i 77_123 i78_123 i79_123 i80_123 i81_123 i82_123 i83_123 i84_123 i85_123 i86_123 i87_123
i88_123 i89_123 i90_123
i91_123 i92_123 i93_123 i94_123 i95_123 i96_123;FILE 'c:\templ\cdf\db\month\m_123';
PUT year 1-4 month 6-9 date 11-12 cdf 10.5;run;

*****;
* Calculation of FS(db) *;
*****;
DATA ldbmax01;INFILE 'C:\templ\cdf\db\cdf_maxdb_long_01.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax01 out=sdbmax01; by year date;
DATA mdbmax01;INFILE 'C:\templ\cdf\db\month\m_1_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax01 out=tdbmax01; by year date;
data ddbmax01;merge sdbmax01 tdbmax01;ddbmax01=abs(maxdbcdf-cdf);run;
proc means data=ddbmax01 noprint; var month ddbmax01; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\templ\cdf\db\wfs_max_01.dat';put year month fsmean
wfs;run;
DATA ldbmax02;INFILE 'C:\templ\cdf\db\cdf_maxdb_long_02.dat';INPUT year month date N maxdbcdf;run;

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PROC SORT data=ldbmax02 out=sdbmax02; by year date;
DATA mdbmax02;INFILE 'C:\temp1\cdf\db\month\m_2_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax02 out=tdbmax02; by year date;
data ddbmax02;merge sdbmax02 tdbmax02;ddbmax02=abs(maxdbcdf-cdf);run;
proc means data=ddbmax02 noprint; var month ddbmax02; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_02.dat';put year month fsmean
wfs;run;
DATA ldbmax03;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_03.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax03 out=sdbmax03; by year date;
DATA mdbmax03;INFILE 'C:\temp1\cdf\db\month\m_3_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax03 out=tdbmax03; by year date;
data ddbmax03;merge sdbmax03 tdbmax03;ddbmax03=abs(maxdbcdf-cdf);run;
proc means data=ddbmax03 noprint; var month ddbmax03; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_03.dat';put year month fsmean
wfs;run;
DATA ldbmax04;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_04.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax04 out=sdbmax04; by year date;
DATA mdbmax04;INFILE 'C:\temp1\cdf\db\month\m_4_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax04 out=tdbmax04; by year date;
data ddbmax04;merge sdbmax04 tdbmax04;ddbmax04=abs(maxdbcdf-cdf);run;
proc means data=ddbmax04 noprint; var month ddbmax04; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_04.dat';put year month fsmean
wfs;run;
DATA ldbmax05;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_05.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax05 out=sdbmax05; by year date;
DATA mdbmax05;INFILE 'C:\temp1\cdf\db\month\m_5_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax05 out=tdbmax05; by year date;
data ddbmax05;merge sdbmax05 tdbmax05;ddbmax05=abs(maxdbcdf-cdf);run;
proc means data=ddbmax05 noprint; var month ddbmax05; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_05.dat';put year month fsmean
wfs;run;
DATA ldbmax06;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_06.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax06 out=sdbmax06; by year date;
DATA mdbmax06;INFILE 'C:\temp1\cdf\db\month\m_6_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax06 out=tdbmax06; by year date;
data ddbmax06;merge sdbmax06 tdbmax06;ddbmax06=abs(maxdbcdf-cdf);run;
proc means data=ddbmax06 noprint; var month ddbmax06; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_06.dat';put year month fsmean
wfs;run;
DATA ldbmax07;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_07.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax07 out=sdbmax07; by year date;
DATA mdbmax07;INFILE 'C:\temp1\cdf\db\month\m_7_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax07 out=tdbmax07; by year date;
data ddbmax07;merge sdbmax07 tdbmax07;ddbmax07=abs(maxdbcdf-cdf);run;
proc means data=ddbmax07 noprint; var month ddbmax07; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_07.dat';put year month fsmean
wfs;run;
DATA ldbmax08;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_08.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax08 out=sdbmax08; by year date;
DATA mdbmax08;INFILE 'C:\temp1\cdf\db\month\m_8_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax08 out=tdbmax08; by year date;
data ddbmax08;merge sdbmax08 tdbmax08;ddbmax08=abs(maxdbcdf-cdf);run;
proc means data=ddbmax08 noprint; var month ddbmax08; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_08.dat';put year month fsmean
wfs;run;
DATA ldbmax09;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_09.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax09 out=sdbmax09; by year date;
DATA mdbmax09;INFILE 'C:\temp1\cdf\db\month\m_9_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax09 out=tdbmax09; by year date;
data ddbmax09;merge sdbmax09 tdbmax09;ddbmax09=abs(maxdbcdf-cdf);run;
proc means data=ddbmax09 noprint; var month ddbmax09; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_09.dat';put year month fsmean
wfs;run;
DATA ldbmax10;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_10.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax10 out=sdbmax10; by year date;
DATA mdbmax10;INFILE 'C:\temp1\cdf\db\month\m_10_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax10 out=tdbmax10; by year date;
data ddbmax10;merge sdbmax10 tdbmax10;ddbmax10=abs(maxdbcdf-cdf);run;
proc means data=ddbmax10 noprint; var month ddbmax10; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_10.dat';put year month fsmean
wfs;run;
DATA ldbmax11;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_11.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax11 out=sdbmax11; by year date;

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DATA mdbmax11;INFILE 'C:\temp1\cdf\db\month\m_11_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax11 out=tdbmax11; by year date;
data ddbmax11;merge sdbmax11 tdbmax11;ddbmax11=abs(maxdbcdf-cdf);run;
proc means data=ddbmax11 noprint; var month ddbmax11; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_11.dat';put year month fsmean
wfs;run;
DATA ldbmax12;INFILE 'C:\temp1\cdf\db\cdf_maxdb_long_12.dat';INPUT year month date N maxdbcdf;run;
PROC SORT data=ldbmax12 out=sdbmax12; by year date;
DATA mdbmax12;INFILE 'C:\temp1\cdf\db\month\m_12_1';INPUT year month date cdf;run;
PROC SORT data=mdbmax12 out=tdbmax12; by year date;
data ddbmax12;merge sdbmax12 tdbmax12;ddbmax12=abs(maxdbcdf-cdf);run;
proc means data=ddbmax12 noprint; var month ddbmax12; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_max_12.dat';put year month fsmean
wfs;run;
DATA ldbmin01;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_01.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin01 out=sdbmin01; by year date;
DATA mdbmin01;INFILE 'C:\temp1\cdf\db\month\m_1_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin01 out=tdbmin01; by year date;
data ddbmin01;merge sdbmin01 tdbmin01;ddbmin01=abs(mindbcdf-cdf);run;
proc means data=ddbmin01 noprint; var month ddbmin01; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_01.dat';put year month fsmean
wfs;run;
DATA ldbmin02;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_02.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin02 out=sdbmin02; by year date;
DATA mdbmin02;INFILE 'C:\temp1\cdf\db\month\m_2_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin02 out=tdbmin02; by year date;
data ddbmin02;merge sdbmin02 tdbmin02;ddbmin02=abs(mindbcdf-cdf);run;
proc means data=ddbmin02 noprint; var month ddbmin02; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_02.dat';put year month fsmean
wfs;run;
DATA ldbmin03;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_03.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin03 out=sdbmin03; by year date;
DATA mdbmin03;INFILE 'C:\temp1\cdf\db\month\m_3_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin03 out=tdbmin03; by year date;
data ddbmin03;merge sdbmin03 tdbmin03;ddbmin03=abs(mindbcdf-cdf);run;
proc means data=ddbmin03 noprint; var month ddbmin03; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_03.dat';put year month fsmean
wfs;run;
DATA ldbmin04;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_04.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin04 out=sdbmin04; by year date;
DATA mdbmin04;INFILE 'C:\temp1\cdf\db\month\m_4_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin04 out=tdbmin04; by year date;
data ddbmin04;merge sdbmin04 tdbmin04;ddbmin04=abs(mindbcdf-cdf);run;
proc means data=ddbmin04 noprint; var month ddbmin04; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_04.dat';put year month fsmean
wfs;run;
DATA ldbmin05;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_05.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin05 out=sdbmin05; by year date;
DATA mdbmin05;INFILE 'C:\temp1\cdf\db\month\m_5_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin05 out=tdbmin05; by year date;
data ddbmin05;merge sdbmin05 tdbmin05;ddbmin05=abs(mindbcdf-cdf);run;
proc means data=ddbmin05 noprint; var month ddbmin05; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_05.dat';put year month fsmean
wfs;run;
DATA ldbmin06;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_06.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin06 out=sdbmin06; by year date;
DATA mdbmin06;INFILE 'C:\temp1\cdf\db\month\m_6_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin06 out=tdbmin06; by year date;
data ddbmin06;merge sdbmin06 tdbmin06;ddbmin06=abs(mindbcdf-cdf);run;
proc means data=ddbmin06 noprint; var month ddbmin06; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_06.dat';put year month fsmean
wfs;run;
DATA ldbmin07;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_07.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin07 out=sdbmin07; by year date;
DATA mdbmin07;INFILE 'C:\temp1\cdf\db\month\m_7_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin07 out=tdbmin07; by year date;
data ddbmin07;merge sdbmin07 tdbmin07;ddbmin07=abs(mindbcdf-cdf);run;
proc means data=ddbmin07 noprint; var month ddbmin07; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_07.dat';put year month fsmean
wfs;run;
DATA ldbmin08;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_08.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin08 out=sdbmin08; by year date;
DATA mdbmin08;INFILE 'C:\temp1\cdf\db\month\m_8_2';INPUT year month date cdf;run;

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PROC SORT data=mdbmin08 out=tdbmin08; by year date;
data ddbmin08;merge sdbmin08 tdbmin08;ddbmin08=abs(mindbcdf-cdf);run;
proc means data=ddbmin08 noprint; var month ddbmin08; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_08.dat';put year month fsmean
wfs;run;
DATA ldbmin09;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_09.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin09 out=sdbmin09; by year date;
DATA mdbmin09;INFILE 'C:\temp1\cdf\db\month\m_9_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin09 out=tdbmin09; by year date;
data ddbmin09;merge sdbmin09 tdbmin09;ddbmin09=abs(mindbcdf-cdf);run;
proc means data=ddbmin09 noprint; var month ddbmin09; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_09.dat';put year month fsmean
wfs;run;
DATA ldbmin10;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_10.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin10 out=sdbmin10; by year date;
DATA mdbmin10;INFILE 'C:\temp1\cdf\db\month\m_10_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin10 out=tdbmin10; by year date;
data ddbmin10;merge sdbmin10 tdbmin10;ddbmin10=abs(mindbcdf-cdf);run;
proc means data=ddbmin10 noprint; var month ddbmin10; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_10.dat';put year month fsmean
wfs;run;
DATA ldbmin11;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_11.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin11 out=sdbmin11; by year date;
DATA mdbmin11;INFILE 'C:\temp1\cdf\db\month\m_11_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin11 out=tdbmin11; by year date;
data ddbmin11;merge sdbmin11 tdbmin11;ddbmin11=abs(mindbcdf-cdf);run;
proc means data=ddbmin11 noprint; var month ddbmin11; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_11.dat';put year month fsmean
wfs;run;
DATA ldbmin12;INFILE 'C:\temp1\cdf\db\cdf_mindb_long_12.dat';INPUT year month date N mindbcdf;run;
PROC SORT data=ldbmin12 out=sdbmin12; by year date;
DATA mdbmin12;INFILE 'C:\temp1\cdf\db\month\m_12_2';INPUT year month date cdf;run;
PROC SORT data=mdbmin12 out=tdbmin12; by year date;
data ddbmin12;merge sdbmin12 tdbmin12;ddbmin12=abs(mindbcdf-cdf);run;
proc means data=ddbmin12 noprint; var month ddbmin12; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.042;file'c:\temp1\cdf\db\fs\wfs_min_12.dat';put year month fsmean
wfs;run;
DATA ldbave01;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_01.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave01 out=sdbave01; by year date;
DATA mdbave01;INFILE 'C:\temp1\cdf\db\month\m_1_3';INPUT year month date cdf;run;
PROC SORT data=mdbave01 out=tdbave01; by year date;
data ddbave01;merge sdbave01 tdbave01;ddbave01=abs(avedbcdf-cdf);run;
proc means data=ddbave01 noprint; var month ddbave01; by year; output out=temp mean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_01.dat';put year month fsmean
wfs;run;
DATA ldbave02;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_02.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave02 out=sdbave02; by year date;
DATA mdbave02;INFILE 'C:\temp1\cdf\db\month\m_2_3';INPUT year month date cdf;run;
PROC SORT data=mdbave02 out=tdbave02; by year date;
data ddbave02;merge sdbave02 tdbave02;ddbave02=abs(avedbcdf-cdf);run;
proc means data=ddbave02 noprint; var month ddbave02; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_02.dat';put year month fsmean
wfs;run;
DATA ldbave03;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_03.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave03 out=sdbave03; by year date;
DATA mdbave03;INFILE 'C:\temp1\cdf\db\month\m_3_3';INPUT year month date cdf;run;
PROC SORT data=mdbave03 out=tdbave03; by year date;
data ddbave03;merge sdbave03 tdbave03;ddbave03=abs(avedbcdf-cdf);run;
proc means data=ddbave03 noprint; var month ddbave03; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_03.dat';put year month fsmean
wfs;run;
DATA ldbave04;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_04.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave04 out=sdbave04; by year date;
DATA mdbave04;INFILE 'C:\temp1\cdf\db\month\m_4_3';INPUT year month date cdf;run;
PROC SORT data=mdbave04 out=tdbave04; by year date;
data ddbave04;merge sdbave04 tdbave04;ddbave04=abs(avedbcdf-cdf);run;
proc means data=ddbave04 noprint; var month ddbave04; by year; output out=tempmean=month fsmean; run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_04.dat';put year month fsmean
wfs;run;
DATA ldbave05;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_05.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave05 out=sdbave05; by year date;

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DATA mdbave05;INFILE 'C:\temp1\cdf\db\month\m_5_3';INPUT year month date cdf;run;
PROC SORT data=mdbave05 out=tdbave05; by year date;
data ddbave05;merge sdbave05 tdbave05;ddbave05=abs(avedbcdf-cdf);run;
proc means data=ddbave05 noprint; var month ddbave05; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_05.dat';put year month fsmean
wfs;run;
DATA ldbave06;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_06.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave06 out=sdbave06; by year date;
DATA mdbave06;INFILE 'C:\temp1\cdf\db\month\m_6_3';INPUT year month date cdf;run;
PROC SORT data=mdbave06 out=tdbave06; by year date;
data ddbave06;merge sdbave06 tdbave06;ddbave06=abs(avedbcdf-cdf);run;
proc means data=ddbave06 noprint; var month ddbave06; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_06.dat';put year month fsmean
wfs;run;
DATA ldbave07;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_07.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave07 out=sdbave07; by year date;
DATA mdbave07;INFILE 'C:\temp1\cdf\db\month\m_7_3';INPUT year month date cdf;run;
PROC SORT data=mdbave07 out=tdbave07; by year date;
data ddbave07;merge sdbave07 tdbave07;ddbave07=abs(avedbcdf-cdf);run;
proc means data=ddbave07 noprint; var month ddbave07; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_07.dat';put year month fsmean
wfs;run;
DATA ldbave08;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_08.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave08 out=sdbave08; by year date;
DATA mdbave08;INFILE 'C:\temp1\cdf\db\month\m_8_3';INPUT year month date cdf;run;
PROC SORT data=mdbave08 out=tdbave08; by year date;
data ddbave08;merge sdbave08 tdbave08;ddbave08=abs(avedbcdf-cdf);run;
proc means data=ddbave08 noprint; var month ddbave08; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_08.dat';put year month fsmean
wfs;run;
DATA ldbave09;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_09.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave09 out=sdbave09; by year date;
DATA mdbave09;INFILE 'C:\temp1\cdf\db\month\m_9_3';INPUT year month date cdf;run;
PROC SORT data=mdbave09 out=tdbave09; by year date;
data ddbave09;merge sdbave09 tdbave09;ddbave09=abs(avedbcdf-cdf);run;
proc means data=ddbave09 noprint; var month ddbave09; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_09.dat';put year month fsmean
wfs;run;
DATA ldbave10;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_10.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave10 out=sdbave10; by year date;
DATA mdbave10;INFILE 'C:\temp1\cdf\db\month\m_10_3';INPUT year month date cdf;run;
PROC SORT data=mdbave10 out=tdbave10; by year date;
data ddbave10;merge sdbave10 tdbave10;ddbave10=abs(avedbcdf-cdf);run;
proc means data=ddbave10 noprint; var month ddbave10; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_10.dat';put year month fsmean
wfs;run;
DATA ldbave11;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_11.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave11 out=sdbave11; by year date;
DATA mdbave11;INFILE 'C:\temp1\cdf\db\month\m_11_3';INPUT year month date cdf;run;
PROC SORT data=mdbave11 out=tdbave11; by year date;
data ddbave11;merge sdbave11 tdbave11;ddbave11=abs(avedbcdf-cdf);run;
proc means data=ddbave11 noprint; var month ddbave11; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_11.dat';put year month fsmean
wfs;run;
DATA ldbave12;INFILE 'C:\temp1\cdf\db\cdf_avedb_long_12.dat';INPUT year month date N avedbcdf;run;
PROC SORT data=ldbave12 out=sdbave12; by year date;
DATA mdbave12;INFILE 'C:\temp1\cdf\db\month\m_12_3';INPUT year month date cdf;run;
PROC SORT data=mdbave12 out=tdbave12; by year date;
data ddbave12;merge sdbave12 tdbave12;ddbave12=abs(avedbcdf-cdf);run;
proc means data=ddbave12 noprint; var month ddbave12; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.083;file'c:\temp1\cdf\db\fs\wfs_ave_12.dat';put year month fsmean
wfs;run;

```

\* Calculation of dp and Calculation of wv are the same way as Calculation of db  
but, in the case of Calculation of wv, wfs=fsmean\*0.083 in wvmax, wfs=fsmean\*0.083 in wvave and

```

wfs=fsmean*0 in wvmin.

*****;
* Calculation of FS(sr)      *;
*****;
DATA lsrtot01;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_01.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot01 out=ssrtot01; by year date;
DATA msrtot01;INFILE 'C:\temp1\cdf\sr\month\m_1_1';INPUT year month date cdf;run;
PROC SORT data=msrtot01 out=tsrtot01; by year date;
data dsrtot01;merge ssrtot01 tsrtot01;dsrtot01=abs(srtotcdf-cdf);run;
proc means data=dsrtot01 noprint; var month dsrtot01; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_01.dat';put year month fsmean
wfs;run;
DATA lsrtot02;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_02.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot02 out=ssrtot02; by year date;
DATA msrtot02;INFILE 'C:\temp1\cdf\sr\month\m_2_1';INPUT year month date cdf;run;
PROC SORT data=msrtot02 out=tsrtot02; by year date;
data dsrtot02;merge ssrtot02 tsrtot02;dsrtot02=abs(srtotcdf-cdf);run;
proc means data=dsrtot02 noprint; var month dsrtot02; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_02.dat';put year month fsmean
wfs;run;
DATA lsrtot03;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_03.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot03 out=ssrtot03; by year date;
DATA msrtot03;INFILE 'C:\temp1\cdf\sr\month\m_3_1';INPUT year month date cdf;run;
PROC SORT data=msrtot03 out=tsrtot03; by year date;
data dsrtot03;merge ssrtot03 tsrtot03;dsrtot03=abs(srtotcdf-cdf);run;
proc means data=dsrtot03 noprint; var month dsrtot03; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_03.dat';put year month fsmean
wfs;run;
DATA lsrtot04;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_04.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot04 out=ssrtot04; by year date;
DATA msrtot04;INFILE 'C:\temp1\cdf\sr\month\m_4_1';INPUT year month date cdf;run;
PROC SORT data=msrtot04 out=tsrtot04; by year date;
data dsrtot04;merge ssrtot04 tsrtot04;dsrtot04=abs(srtotcdf-cdf);run;
proc means data=dsrtot04 noprint; var month dsrtot04; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_04.dat';put year month fsmean
wfs;run;
DATA lsrtot05;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_05.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot05 out=ssrtot05; by year date;
DATA msrtot05;INFILE 'C:\temp1\cdf\sr\month\m_5_1';INPUT year month date cdf;run;
PROC SORT data=msrtot05 out=tsrtot05; by year date;
data dsrtot05;merge ssrtot05 tsrtot05;dsrtot05=abs(srtotcdf-cdf);run;
proc means data=dsrtot05 noprint; var month dsrtot05; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_05.dat';put year month fsmean
wfs;run;
DATA lsrtot06;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_06.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot06 out=ssrtot06; by year date;
DATA msrtot06;INFILE 'C:\temp1\cdf\sr\month\m_6_1';INPUT year month date cdf;run;
PROC SORT data=msrtot06 out=tsrtot06; by year date;
data dsrtot06;merge ssrtot06 tsrtot06;dsrtot06=abs(srtotcdf-cdf);run;
proc means data=dsrtot06 noprint; var month dsrtot06; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_06.dat';put year month fsmean
wfs;run;
DATA lsrtot07;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_07.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot07 out=ssrtot07; by year date;
DATA msrtot07;INFILE 'C:\temp1\cdf\sr\month\m_7_1';INPUT year month date cdf;run;
PROC SORT data=msrtot07 out=tsrtot07; by year date;
data dsrtot07;merge ssrtot07 tsrtot07;dsrtot07=abs(srtotcdf-cdf);run;
proc means data=dsrtot07 noprint; var month dsrtot07; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_07.dat';put year month fsmean
wfs;run;
DATA lsrtot08;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_08.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot08 out=ssrtot08; by year date;
DATA msrtot08;INFILE 'C:\temp1\cdf\sr\month\m_8_1';INPUT year month date cdf;run;
PROC SORT data=msrtot08 out=tsrtot08; by year date;
data dsrtot08;merge ssrtot08 tsrtot08;dsrtot08=abs(srtotcdf-cdf);run;

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proc means data=dsrtot08 noprint; var month dsrtot08; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_08.dat';put year month fsmean
wfs;run;
DATA lsrtot09;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_09.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot09 out=ssrtot09; by year date;
DATA msrtot09;INFILE 'C:\temp1\cdf\sr\month\m_9_1';INPUT year month date cdf;run;
PROC SORT data=msrtot09 out=tsrtot09; by year date;
data dsrtot09;merge ssrtot09 tsrtot09;dsrtot09=abs(srtotcdf-cdf);run;
proc means data=dsrtot09 noprint; var month dsrtot09; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_09.dat';put year month fsmean
wfs;run;
DATA lsrtot10;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_10.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot10 out=ssrtot10; by year date;
DATA msrtot10;INFILE 'C:\temp1\cdf\sr\month\m_10_1';INPUT year month date cdf;run;
PROC SORT data=msrtot10 out=tsrtot10; by year date;
data dsrtot10;merge ssrtot10 tsrtot10;dsrtot10=abs(srtotcdf-cdf);run;
proc means data=dsrtot10 noprint; var month dsrtot10; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_10.dat';put year month fsmean
wfs;run;
DATA lsrtot11;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_11.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot11 out=ssrtot11; by year date;
DATA msrtot11;INFILE 'C:\temp1\cdf\sr\month\m_11_1';INPUT year month date cdf;run;
PROC SORT data=msrtot11 out=tsrtot11; by year date;
data dsrtot11;merge ssrtot11 tsrtot11;dsrtot11=abs(srtotcdf-cdf);run;
proc means data=dsrtot11 noprint; var month dsrtot11; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_11.dat';put year month fsmean
wfs;run;
DATA lsrtot12;INFILE 'C:\temp1\cdf\sr\cdf_srtot_long_12.dat';INPUT year month date N srtotcdf;run;
PROC SORT data=lsrtot12 out=ssrtot12; by year date;
DATA msrtot12;INFILE 'C:\temp1\cdf\sr\month\m_12_1';INPUT year month date cdf;run;
PROC SORT data=msrtot12 out=tsrtot12; by year date;
data dsrtot12;merge ssrtot12 tsrtot12;dsrtot12=abs(srtotcdf-cdf);run;
proc means data=dsrtot12 noprint; var month dsrtot12; by year; output out=temp mean=month fsmean;
run;
data temptemp;set temp;wfs=fsmean*0.500;file'c:\temp1\cdf\sr\fs\wfs_ave_12.dat';put year month fsmean
wfs;run;

*****;
* Calculation of WS *;
*****;
DATA temp1_1;infile 'c:\temp1\cdf\db\fs\wfs_max_01.dat';input year month fsdbmax dbmax;run;
DATA temp1_2;infile 'c:\temp1\cdf\db\fs\wfs_min_01.dat';input year month fsdbmin dbmin;run;
DATA temp1_3;infile 'c:\temp1\cdf\db\fs\wfs_ave_01.dat';input year month fsdbave dbave;run;
DATA temp2_1;infile 'c:\temp1\cdf\dp\fs\wfs_max_01.dat';input year month fsdpmax dpmax;run;
DATA temp2_2;infile 'c:\temp1\cdf\dp\fs\wfs_min_01.dat';input year month fsdpmin dpmin;run;
DATA temp2_3;infile 'c:\temp1\cdf\dp\fs\wfs_ave_01.dat';input year month fsdpave dpave;run;
DATA temp3_1;infile 'c:\temp1\cdf\wv\fs\wfs_max_01.dat';input year month fswvmax wvmax;run;
DATA temp3_2;infile 'c:\temp1\cdf\wv\fs\wfs_min_01.dat';input year month fswvmin wvmin;run;
DATA temp3_3;infile 'c:\temp1\cdf\wv\fs\wfs_ave_01.dat';input year month fswvave wvave;run;
DATA temp4;infile 'c:\temp1\cdf\sr\fs\wfs_ave_01.dat';input year month fssrtot srtot;run;
data ws_01;merge temp1_1 temp1_2 temp1_3 temp2_1 temp2_2 temp2_3 temp3_1 temp3_2 temp3_3 temp4;
ws = dbmax+dbmin+dbave+dpmax+dpmin+dpave+wvmax+wvmin+wvave+srtot;
keep year month fsdbmax fsdbmin fsdbave fsdpmax fsdpmin fsdpave fswvmax fswvmin fswvave fssrtot dbmax
dbmin dbave dpmax dpmin dpave wvmax wvmin wvave srtot ws;run;
DATA temp1_1;infile 'c:\temp1\cdf\db\fs\wfs_max_02.dat';input year month fsdbmax dbmax;run;
DATA temp1_2;infile 'c:\temp1\cdf\db\fs\wfs_min_02.dat';input year month fsdbmin dbmin;run;
DATA temp1_3;infile 'c:\temp1\cdf\db\fs\wfs_ave_02.dat';input year month fsdbave dbave;run;
DATA temp2_1;infile 'c:\temp1\cdf\dp\fs\wfs_max_02.dat';input year month fsdpmax dpmax;run;
DATA temp2_2;infile 'c:\temp1\cdf\dp\fs\wfs_min_02.dat';input year month fsdpmin dpmin;run;
DATA temp2_3;infile 'c:\temp1\cdf\dp\fs\wfs_ave_02.dat';input year month fsdpave dpave;run;
DATA temp3_1;infile 'c:\temp1\cdf\wv\fs\wfs_max_02.dat';input year month fswvmax wvmax;run;
DATA temp3_2;infile 'c:\temp1\cdf\wv\fs\wfs_min_02.dat';input year month fswvmin wvmin;run;
DATA temp3_3;infile 'c:\temp1\cdf\wv\fs\wfs_ave_02.dat';input year month fswvave wvave;run;
DATA temp4;infile 'c:\temp1\cdf\sr\fs\wfs_ave_02.dat';input year month fssrtot srtot;run;
data ws_02;merge temp1_1 temp1_2 temp1_3 temp2_1 temp2_2 temp2_3 temp3_1 temp3_2 temp3_3 temp4;
ws = dbmax+dbmin+dbave+dpmax+dpmin+dpave+wvmax+wvmin+wvave+srtot;
keep year month fsdbmax fsdbmin fsdbave fsdpmax fsdpmin fsdpave fswvmax fswvmin fswvave fssrtot dbmax
dbmin dbave dpmax dpmin dpave wvmax wvmin wvave srtot ws;run;
DATA temp1_1;infile 'c:\temp1\cdf\db\fs\wfs_max_03.dat';input year month fsdbmax dbmax;run;

```







```

proc sort data=ws_03 out=s_ws_03; by ws; run;proc sort data=ws_04 out=s_ws_04; by ws; run;
proc sort data=ws_05 out=s_ws_05; by ws; run;proc sort data=ws_06 out=s_ws_06; by ws; run;
proc sort data=ws_07 out=s_ws_07; by ws; run;proc sort data=ws_08 out=s_ws_08; by ws; run;
proc sort data=ws_09 out=s_ws_09; by ws; run;proc sort data=ws_10 out=s_ws_10; by ws; run;
proc sort data=ws_11 out=s_ws_11; by ws; run;proc sort data=ws_12 out=s_ws_12; by ws; run;
data select01;set s_ws_01;
ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select02;set s_ws_02;
ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select03;set s_ws_03;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select04;set s_ws_04;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select05;set s_ws_05;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select06;set s_ws_06;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select07;set s_ws_07;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select08;set s_ws_08;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select09;set s_ws_09;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select10;set s_ws_10;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select11;set s_ws_11;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data select12;set s_ws_12;ID=_N_;if ID > 5 THEN DELETE;KEEP year month ws;RUN;
data totsel;
set select01 select02 select03 select04 select05 select06 select07 select08 select09 select10 select11
select12;run;
proc print; run;

*****;
* Calculation of deviation(1st standard for final selection) *;
*****;
DATA d_dbave;INFILE 'c:\temp1\avedb.dat';INPUT year month date db_ave;RUN;
DATA d_srtot;INFILE 'c:\temp1\srtot.dat';INPUT year month date sr_tot;RUN;
data tot;merge d_dbave d_srtot;run;
data select1 select2 select3 select4 select5 select6 select7 select8 select9 select10 select11
select12;set tot;
if month = 1 and (year = 1982 or year = 1987 or year = 1991 or year =1980 or year = 1996) then output
select1;
if month = 2 and (year = 1987 or year = 1991 or year = 1985 or year =1983 or year = 1982) then output
select2;
if month = 3 and (year = 1983 or year = 1991 or year = 1978 or year =1979 or year = 1986) then output
select3;
if month = 4 and (year = 1995 or year = 1992 or year = 1985 or year =1982 or year = 1991) then output
select4;
if month = 5 and (year = 1991 or year = 1993 or year = 1989 or year =1996 or year = 1992) then output
select5;
if month = 6 and (year = 1986 or year = 1988 or year = 1995 or year =1984 or year = 1980) then output
select6;
if month = 7 and (year = 1989 or year = 1985 or year = 1992 or year =1984 or year = 1988) then output
select7;
if month = 8 and (year = 1982 or year = 1983 or year = 1989 or year =1991 or year = 1992) then output
select8;
if month = 9 and (year = 1988 or year = 1994 or year = 1992 or year =1993 or year = 1986) then output
select9;
if month = 10 and (year = 1978 or year = 1990 or year = 1988 or year =1993 or year = 1991) then output
select10;
if month = 11 and (year = 1983 or year = 1996 or year = 1977 or year =1989 or year = 1987) then output
select11;
if month = 12 and (year = 1993 or year = 1994 or year = 1988 or year =1982 or year = 1987) then output
select12;run;
proc means data=select1 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select2 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select3 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select4 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select5 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select6 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select7 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select8 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select9 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select10 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select11 mean std; by year; class month; var db_ave sr_tot; run;
proc means data=select12 mean std; by year; class month; var db_ave sr_tot; run;
proc sort data=tot out=stot; by month; run;
proc means data=stot mean std; by month; var db_ave sr_tot; run;

```