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* THIS PROGRAM COMPARES SPECIFIED NUMERIC VARIABLES ON TWO DATASETS *;
* PRESENTED AT WISUG ON 5-11-06 BY DAVID OESPER, LANDS' END *;
* REVISED TO ALLOW COMMA DELIMITER IN COMPARE_VARS MACRO VARIABLE *;
* ON 5-16-06 BY GERRY FREY, SYSTEM SEMINAR CONSULTANTS *;
*****;
%LET NEWLIB = 'DXJT.G07.DAOESPE.ALTRANS.MORE';
%LET NEWSDS = ALTMORE;

%LET OLDLIB = 'DXJT.G07.DAOESPE.ALTRANS.LESS';
%LET OLDSDS = ALTLESS;

%LET COMPARE_VARS = MEDIAN_AGE, MEDIAN_EARN, BSBA, BOTH_WORK, POP_RURAL,
                    POPDENS, LT10MIN_COMMUTE;

LIBNAME TEMP '&PTDTEMP' SPACE=(CYL,(250,20),RLSE);
OPTIONS USER=TEMP ERRORS=1;

LIBNAME NEWLIB &NEWLIB DISP=SHR;
LIBNAME OLDLIB &OLDLIB DISP=SHR;

%MACRO CALCSTATS(VAR, LIB, SDS, INIT);
  PROC SQL;
    CREATE TABLE NEWSTATS AS
    SELECT "&VAR"          AS VARIABLE
           ,N(&VAR)        AS N
           ,NMISS(&VAR)    AS NMISS
           ,MEAN(&VAR)     AS MEAN
           ,STDERR(&VAR)   AS STDERR
           ,CV(&VAR)       AS CV
           ,MIN(&VAR)      AS MIN
           ,MAX(&VAR)      AS MAX
           ,SUM(&VAR)      AS SUM
           , "&LIB"        AS FILE
           , "&SDS"        AS DATASET
    FROM &LIB..&SDS
  QUIT;
%IF &INIT = INIT %THEN %DO;
  DATA ALLSTATS;
    RETAIN VARIABLE N NMISS MEAN STDERR CV MIN MAX SUM FILE DATASET;
    LENGTH VARIABLE $30 DATASET $16;
    SET NEWSTATS;
  RUN;
%END;
%ELSE %DO;
  DATA ALLSTATS;
    RETAIN VARIABLE N NMISS MEAN STDERR CV MIN MAX SUM FILE DATASET;
    LENGTH VARIABLE $30 DATASET $16;
    SET ALLSTATS NEWSTATS;
  RUN;
%END;
%MEND CALCSTATS;

%MACRO MAKEVARS(NVARS);
%DO I=1 %TO &NVARS;
  %GLOBAL VAR&I;
  %LET VAR&I = %SCAN(%QUOTE(&COMPARE_VARS), &I);

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%END;
%MEND MAKEVARS;

%MACRO COMPVARS;
%CALCSTATS(&VAR1,NEWLIB,&NEWSDS,INIT);
%CALCSTATS(&VAR1,OLDLIB,&OLDSDS);

%DO I = 2 %TO &NVAR;
  %CALCSTATS(&&VAR&I,NEWLIB,&NEWSDS);
  %CALCSTATS(&&VAR&I,OLDLIB,&OLDSDS);
%END;
%MEND COMPVARS;

DATA _NULL_;
  NVARS = COUNT("&COMPARE_VARS",",") + 1;
  CALL SYMPUT('NVARS',PUT(NVARS,3.));
RUN;

%MAKEVARS(&NVAR);

%COMPVARS;

PROC SORT DATA=ALLSTATS;
  BY VARIABLE FILE;

PROC PRINT DATA=ALLSTATS NOOBS;
  BY VARIABLE;
  ID VARIABLE;
  TITLE1 "NEWLIB IS &NEWLIB";
  TITLE2 "OLDLIB IS &OLDLIB";
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