```
libname raw '/home/u58485303/raw';
libname output '/home/u58485303/output';
libname base '/home/u58485303/base';

options validvarname=upcase;

/* created variables STUDYID DOMAIN      USUBJID       EXTRT EXDOSE
EXDOSU EXDOSFRM EXSTDTC EXENDTC */
data ex1;
set raw.drug;
length USUBJID $40;

STUDYID= 'ACP-103-020';
DOMAIN= 'EX';
SUBJID= strip(substr(SUBJECT, 4,3));
SITEID= strip(substr(SITE, 5,3));
USUBJID= compress(STUDYID || '-' || SITEID|| '-' || SUBJID);

EXTRT= strip(TRTMNT);
EXDOSE= TRTDOS;
EXDOSU= strip(TRTDOSU);
EXDOSFRM= 'TABLET';

EXSTDTC= put(DOSEDTN,??is8601da.);
EXENDTC= put(LSTDODTN,??is8601da.);

keep STUDYID DOMAIN  USUBJID       EXTRT EXDOSE EXDOSU  EXDOSFRM
EXSTDTC EXENDTC;
run;

/* merged with DM to refer to RFSTDTC */
/* created variables EXSTDY EXENDY */

proc sort data= output.dm out= dm1 (keep= usubjid rfstdtc);
by usubjid;
run;

proc sort data= ex1 out= ex2;
by usubjid;
run;

data ex_dm;
merge dm1 (in= a) ex2 (in= b);
if a and b;
by usubjid;
exstdt= input(exstdtc,??is8601da.);
```

```
exendt= input(exendtc,??is8601da.);
rfstdt= input(rfstdtc,??is8601da.);

if exstdt ge rfstdt then exstdy= (exstdt- rfstdt) + 1;
else exstdy= exstdt- rfstdt;

if exendt ge rfstdt then exendy= (exendt- rfstdt) + 1;
else exendy= exendt- rfstdt;

run;

/* stdy_dy macro */

/* options mprint;

%macro stdy_dy (domain=, input=);

proc sort data= output.dm out= dmx (keep= usubjid rfstdtc);
by usubjid;
run;

proc sort data= &input. out= &input.x;
by usubjid;
run;

data &input._dm;
merge dmx (in= a) &input.x (in= b);
if a and b;
by usubjid;
&domain.stdt= input(&domain.stdtc,??is8601da.);
&domain.endt= input(&domain.endtc,??is8601da.);
rfstdt= input(rfstdtc,??is8601da.);

if &domain.stdt ge rfstdt then &domain.stdy= (&domain.stdt- rfstdt) +
1;
else &domain.stdy= &domain.stdt- rfstdt;

if &domain.endt ge rfstdt then &domain.endy= (&domain.endt- rfstdt) +
1;
else &domain.endy= &domain.endt- rfstdt;

run;

%mend stdy_dy;

%stdy_dy(domain=ex, input=ex1); */
```

```
/* created EXSEQ */

proc sort data= ex_dm out= ex_dm1;
by studyid usubjid extrt exstdtc;
run;

data ex3;
set ex_dm1;
by studyid usubjid extrt exstdtc;

if first.usubjid then exseq= 1;
else exseq +1;
run;

/* assigned attributes and created final ex dataset */

%let keepvar= STUDYID DOMAIN USUBJID EXSEQ EXTRT EXDOSE EXDOSU EXDOSFRM
       EXSTDTC       EXENDTC       EXSTDY EXENDY;

data output.ex (label= 'Exposure');
retain &keepvar;
attrib STUDYID label= 'Study Identifier' length= $20
              DOMAIN label= 'Domain Abbreviation' length= $2
              USUBJID label= 'Unique Subject Identifier' length= $40
              EXSEQ label= 'Sequence Number' length= 8.
              EXTRT label= 'Name of Treatment' length= $40
              EXDOSE label= 'Dose' length= 8.
              EXDOSU label= 'Dose Units' length= $2
              EXDOSFRM label= 'Dose Form' length= $10
              EXSTDTC label= 'Start Date/Time of Treatment' length= $20
              EXENDTC label= 'End Date/Time of Treatment' length= $20
              EXSTDY label= 'Study Day of Start of Treatment' length=
8.
              EXENDY label= 'Study Day of End of Treatment' length= 8.;
set ex3;

keep &keepvar;
run;

proc compare base=base.ex comp=output.ex listall;
ods listing file= '/home/u58485303/output/ex.lst';
run;
```