```sas
libname adam_raw '/home/u58485303/adam_raw';
libname adam_out '/home/u58485303/adam_output';
libname a_base '/home/u58485303/adam_base';

options validvarname=upcase;

/* suppae raw data */
/* sorted and transposed suppae by usubjid and aeseq*/

data suppae;
set adam_raw.suppae;
where qnam in ('AEDLTOX', 'CONMEDID');
aeseq=input(idvarval,??best.);
run;

proc sort data= suppae;
by usubjid aeseq;
run;

proc transpose data=suppae out= suppae1;
by usubjid aeseq;
id qnam;
var qval;
run;

/* merged suppae with ae */

data ae1;
merge adam_raw.ae (in=a) suppae1 (in=b);
by usubjid aeseq;
if a;
run;

/* merged above merged dataset with adsl */

data ae2;
length AREL ASEV $200;
merge ae1 (in=a) adam_out.adsl (in=b);
by usubjid;
if a and b;

TRTP= TRT01P;
TRTPN= TRT01PN;
TRTA= TRT01A;
TRTAN= TRT01AN;
```

```sas
ADECOD= AEDECOD;

/* AEREL */
if AEREL= '' then AREL= 'RELATED';
else if AEREL in ('DEFINITELY RELATED', 'POSSIBLY RELATED', 'PROBABLY
RELATED', 'RELATED')
       then AREL= 'RELATED';
else if AEREL in ('UNLIKELY RELATED', 'NOT RELATED') then AREL= 'NOT
RELATED';

/* ASEV ASEVN */
if strip(AETOXGR)= '1' then do; ASEV= 'Mild'; ASEVN= 1; end;
else if strip(AETOXGR)= '2' then do; ASEV= 'Moderate'; ASEVN= 2; end;
else if strip(AETOXGR)= '3' then do; ASEV= 'Severe'; ASEVN= 3; end;
else if strip(AETOXGR)= '4' then do; ASEV= 'Life-threatening'; ASEVN=
4; end;
else if strip(AETOXGR) in ('5', '') then do; ASEV= 'Death'; ASEVN= 5;
end;

/* AEDLTTOX AECMEDID */
AEDLTTOX= AEDLTOX;
AECMEDID= CONMEDID;

/* extracted year,mon and date from aestdtc */
aes_year= scan(aestdtc,1,'-');
aes_mon= scan(aestdtc,2,'-');
aes_date= scan(aestdtc,3,'-');

/* extracted year and mon from trtsdt */
trtsdt1= put(trtsdt,is8601da.);
trts_year= scan(trtsdt1,1,'-');
trts_mon= scan(trtsdt1,2,'-');

/* ASTDTF ASTDT */
/* non- missing date */
if length(strip(aestdtc)) ge 10 then ASTDT= input(aestdtc,yymmdd10.);

/* completely missing date */
else if aestdtc eq '' then do;
ASTDTF='Y';
ASTDT= TRTSDT;
end;

/* month and date missing */
else if length(aestdtc) eq 4 then do;
ASTDTF='M';
```

```
if aes_year= trts_year then ASTDT= TRTSDT;
else if aes_year< trts_year then ASTDT= catx('-',aes_year,'12-31');
else if aes_year> trts_year then ASTDT= catx('-',aes_year,'01-01');
end;

/* date missing */
else if length(aestdtc) eq 7 then do;
ASTDTF='D';
if aes_year= trts_year and aes_mon= trts_mon then ASTDT= TRTSDT;
else if (aes_year= trts_year and aes_mon< trts_mon) or aes_year<
trts_year then
       ASTDT= intnx('MONTH',input(aestdtc,anydtdte7.),0,'E');
else if (aes_year= trts_year and aes_mon> trts_mon) or aes_year>
trts_year then
       ASTDT= input(catx('-',aes_year,aes_mon,'01'),yymmdd10.);
end;

/* AENDT */
if length(strip(aeendtc)) ge 10 then AENDT= input(aeendtc,yymmdd10.);

format ASTDT AENDT date11.;

/* ASTDY AENDY */
if ASTDT>= TRTSDT then ASTDY= ASTDT-TRTSDT+1;
else ASTDY= ASTDT-TRTSDT;

if AENDT>= TRTSDT then AENDY= AENDT-TRTSDT+1;
else AENDY= AENDT-TRTSDT ;

/* TRTEMFL */
if TRTSDT<= ASTDT <=TRTEDT+28 then TRTEMFL= 'Y';
else TRTEMFL= 'N';

/* FUPFL */
if ASTDT> TRTEDT >. then FUPFL= 'Y';

run;

proc sort data= ae2;
by usubjid aeterm aedecod astdt aendt;
run;

%let keepvar= STUDYID USUBJID SUBJID SITEID TRTP TRTPN TRTA TRTAN
SCRNFL ENRLFL ITTFL SAFFL PKFL AESPID AETERM AEDECOD
        ADECOD AEBODSYS AEBDSYCD AELLT AELLTCD AEPTCD AEHLT AEHLTCD
AEHLGT AEHLGTCD AESOC AESOCCD AESTDTC ASTDT ASTDTF
```

```
        AEENDTC AENDT ASTDY AENDY TRTEMFL AEACN AESHOSP AECONTRT AEREL
AREL AEOUT AEENRF ASEV ASEVN AETOXGR AEDLTTOX AECMEDID
        FUPFL;

data adam_out.adae;
retain &keepvar;
set ae2;

keep &keepvar;
run;

proc compare base=a_base.adae comp=adam_out.adae outcompare outbase
outnoequal outdiff method=exact out=difference;
/* ods listing file= '/home/u58485303/output/vs.lst'; */
run;
```