/\* Initial Data Processing with Error Handling \*/

data adam\_ae;

set ae02;

/\* Check for missing date values \*/

if missing(AESTDT) or missing(AEENDT) or missing(RFSTDTC) then do;

put "ERROR: Missing date values for AE data.";

return;

end;

/\* Date conversion \*/

AESTDY = (AESTDT - RFSTDTC) + 1;

AEENDY = (AEENDT - RFSTDTC) + 1;

/\* Recode variables \*/

AESER = ifc(upcase(AESER) = 'Y', 'Y', 'N');

select (upcase(AESEV));

when ('MILD') AESEV = 1;

when ('MODERATE') AESEV = 2;

when ('SEVERE') AESEV = 3;

otherwise AESEV = .; /\* Handle unknown values \*/

end;

AEOUT = ifc(upcase(AEOUT) = 'DEATH', 'Y', 'N');

AELAST = ifn(last.USUBJID, 'Y', 'N');

run;

/\* Sequence Generation \*/

retain AESEQ 0;

if first.USUBJID then AESEQ = 1;

else AESEQ + 1;

/\* Merge with SE dataset \*/

proc sort data=adam\_ae; by usubjid; run;

proc sort data=se; by usubjid; run;

data adam\_ae;

merge adam\_ae (in=a) se (in=b keep=usubjid epoch);

by usubjid;

if a; /\* Only keep records from adam\_ae \*/

/\* If no matching record from 'se', handle missing EPOCH \*/

if not b then AESEQ = .;

run;

/\* Export ADaM Dataset \*/

%let output\_dir = C:\path\to\output;

%if %sysfunc(fileexist(&output\_dir)) = 0 %then %do;

%put ERROR: Directory &output\_dir does not exist!;

return;

%end;

libname adam xport "&output\_dir\adam\_ae.xpt";

proc copy in=work out=adam;

select adam\_ae;

run;