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%_mprintto;
options notes nosource;
proc datasets lib=work nolist memtype=data kill; quit;
%put NOTE:
=====;
%put NOTE: Covance Study Number : 000000106324;
%put NOTE: Client Protocol ID   : ZRHR-REXC-03-EU;
%put NOTE: Program Name        : t_pkparam.sas;
%put NOTE: Purpose              : table of nicotine concentrations;
%put NOTE: ;
%put NOTE: Input Data           : ADAM.ADPP ADAM.ADSL;
%put NOTE: Output               : t_15_2_4_37(pkparam);
%put NOTE: Macros Called        : _MPRINTTO;
%put NOTE: ;
%put NOTE: Programmed by        : cvn_jhardman;
%put NOTE: Creation Date        : 2014-08-04;
%put NOTE: SAS Version          : 9.3;
%put NOTE: ;
%put NOTE: == Latest Run
=====;
%put NOTE: Run by                : &sysuserid;
%put NOTE: Date/Time             :
%sysfunc(putn(%sysfunc(date()),e8601da.))T%sysfunc(putn(%sysfunc(time()),
e86011z.));
%put NOTE: ;
%put NOTE: == Modification History
=====;
%put NOTE: Date      Initials   No. Reason;
%put NOTE: ;
%put NOTE:
=====;
options notes source source2 nofullstimer validvarname=upcase missing='
';
ods _all_ close;
ods listing;

*=====;
* START OF PROGRAM CODE
*=====;

%let tflno=T_15_02_04_37(pkparam);

%let TFL_Part=%scan(&_SASPROGRAMFILE,-3,%str(/));

data _null_;
  tmp="&TFL_Part";
  if tmp not in ("dev" "qc") then call symput("TFL_Part", "prod");
  call symput('TFLpath', compress("&_SASPROGRAMFILE",""));
run;

*****;
* read in data ;
*****;

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/*Use ADSL to get N values for column headers*/
data adsl;
    set adam.adsl(where=(fasfl='Y'));
run;

proc sort data=adsl nodupkey out=adsl1;
    by trt01an trt01a subjid;
run;

proc freq data=adsl1(where=(not missing(trt01an))) noprint;
    table trt01an*trt01a/ out =tot(drop=percent rename=(count=total));
run;

data tot2;
    set tot;
    call symput('trt' || compress(put(trt01an,best.)),
compress(total));
run;

/*Bring in appropriate data from adpp*/
data adpp;
    set adam.adpp(where=(parcat1='Nicotine' and anl01fl='Y' and
fasfl='Y'));

    param=tranwrd(param,'(Nicotine)','');
run;

data adpp_orig;
    set adpp;
    statval=aval;
run;

proc sort data=adpp_orig;
    by trtan trta paramn param;
run;

proc means data=adpp_orig noprint;
    var statval;
    by trtan trta paramn param;
    output out=results02 n=n1 mean=mean1 std=std1 median=median1 min=min1
max=max1 q1=q11 q3=q31 lclm=lci1 uclm=uci1;
run;

data results03;
    set results02;
    attrib meansd length=$20.
        minmax length=$20.
        n length=$20.
        median length=$20.
        quart length=$20.;

    n = left(compress(put(n1,8.)));

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        if not missing(median1) then median =
left(compress(put(round(median1,0.01),8.2)));
        if not missing(mean1) and not missing(std1) then meansd =
left(compress(put(round(mean1,0.01),8.2))) || ' (' ||
left(compress(put(0.001*ceil(std1/0.001),8.3))) || ')';
        if not missing(min1) and not missing(max1) then minmax =
left(compress(put(round(min1,0.1),8.1))) || ', ' ||
left(compress(put(round(max1,0.1),8.1)));
        if not missing(lcil) and not missing(ucil) then ci =
strip(strip(put(0.01*floor(lcil/0.01),8.2)) || ', ' ||
strip(put(0.01*ceil(ucil/0.01),8.2)));
        if not missing(q11) and not missing(q31) then quart =
strip(strip(put(0.01*floor(q11/0.01),8.2)) || ', ' ||
strip(put(0.01*ceil(q31/0.01),8.2)));

        drop n1 mean1 std1 median1 min1 max1 q11 q31;
run;

data gmean;
    set adpp_orig;
    statvall=statval;
    if statval ne 0 then ln_statvall=log(statvall);
run;

proc sort data=gmean;
    by trtan trta paramn param;
run;

proc means data=gmean noprint;
    output out=gmean1 mean=mean std=std1 lclm=lcil uclm=ucil nmiss=miss;
    var ln_statvall;
    by trtan trta paramn param;
run;

data gmean2;
    set gmean1;
    gmean1=exp(mean);
    gmean=left(compress(put(round(gmean1,0.01),10.2)));
    gcv=compress(put(0.01*ceil((sqrt(exp(std1*std1)-1)*100)/0.01),10.2));
    glci=exp(lcil);
    guci=exp(ucil);
    keep trtan trta paramn param gmean mean gcv glci guci std1 miss;
run;

proc sort data=results03;
    by trtan trta paramn param;
run;

data results04;
    merge results03 gmean2;
    attrib gmeancv length=$30.;
    by trtan trta paramn param;
    if not missing(gcv) then gmeancv=left(trim(gmean)) || ' (' ||
left(trim(gcv)) || '%)';

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        else gmeancv=left(trim(gmean));
        if not missing(glci) and not missing(guci) then ci =
strip(strip(put(0.01*floor(glci/0.01),10.2)) || ', ' ||
strip(put(0.01*ceil(guci/0.01),10.2)));
run;

proc sort data=results04;
    by paramn param;
run;

proc transpose data=results04 out=results06 prefix=r name=varname;
    by paramn param;
    var n meansd median minmax quart gmeancv ci;
    id trtan;
    idlabel trta;
run;

proc sort data=results06;
    by paramn param;
run;

data results07;
    set results06;
    attrib stat length = $200.;
    varname=upcase(varname);

    if varname='N' then do;
        statord=1;
        stat='n';
    end;
    else if varname='GMEANCV' then do;
        statord=2;
        stat='Geometric Mean (CV%)';
    end;
    else if varname='CI' then do;
        statord=3;
        stat='95% CI';
    end;
    else if varname='MEDIAN' then do;
        statord=4;
        stat='Median';
    end;
    else if varname='QUART' then do;
        statord=5;
        stat='Q25, Q75';
    end;
    else if varname='MINMAX' then do;
        statord=6;
        stat='Min, Max';
    end;
    else if varname='MEANSD' then do;
        statord=7;
        stat='Mean (SD)';
    end;
end;

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        drop varname;
run;

data results08;
    set results07;

    if stat='N' or stat='n' then do;
        if missing(r1) then r1='0';
        if missing(r2) then r2='0';
    end;
run;

data labels;
set results08;
    attrib r1 label = "THS 2.2$(N=&trt1)"
           r2 label = "CC$(N=&trt2)"
           param1 label="Unformatted parameter"
           param label="Formatted parameter"
           paramn label="Original parameter number"
           paramn2 label="Sorting parameter number";

           flag=1;

           param1=param;

           if paramn=1 then param=tranwrd(param,"Average Conc","C`{sub
avg}");
           else if paramn=2 then param=tranwrd(param,"Max Conc","C`{sub
peak}");
           else if paramn=3 then param=tranwrd(param,"Time of
CMAX","t`{sub peak}");

           if paramn=1 then paramn2=3;
           else if paramn=2 then paramn2=1;
           else if paramn=3 then paramn2=2;

           if statord=7 then delete;

           if paramn2=2 then do;
               if statord in (2 3) then delete;
           end;
           if paramn2 in (1 2 3) then pageord=1;
           else pageord=2;

run;

proc sql noprint;
    create table table.T_15_02_04_37 as
    select param, stat, r1, r2
    from labels
    order by paramn2, statord;
quit;

proc sort data=labels;

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        by pageord statord;
run;

data paging;
    set labels;
        by pageord statord;
        if first.pageord then ln=1; /*amend to look presentable, and avoid
page overflows*/
        else ln+1;
        if ln=1 then page+1;
        call symput("page",compress(put(page,best.)));
run;

%macro outrtf(blankn=, halfblnk=);

%if &halfblnk=N %then %let halfblnk=;
%else %if &halfblnk=Y %then %let halfblnk=~;

options number nodate orientation=landscape papersize=&p_pgsz missing='
';
ods escapechar='`';
%let linetop = \brdrt\brdrs\brdrw30; * needs to be 1.5pt so calculated
in twips (1/20 pt) ;
%let linebot = \brdrb\brdrs\brdrw30;

ods path stdlib.tl06324 (read) ;
ods results off;
ods rtf toc_data
file="/cvn/projects/prj/data/000000106324/TFL/&TFL_Part./&tflno..rtf"
style=tl06324 startpage=yes headery=1440 footery=1440 ;
ods noproctitle;
%do i=1 %to &page;

title ;
footnote;
%let nc=0;

data comp;
    set paging end=eof;
        where page=&i;

        /* Amend title as needed */
        _firtitl="Table 15.2.4.37 Descriptive Statistics of Plasma Nicotine
Concentration Parameters on Day 5 - FAS";
        _upcas=(length("Path: &TFLpath.")-
length(compress("Path:&TFLpath.",'ABCDEFGHIJKLMNOPQRSTUVWXYZ')))/2;
        len=&blankn.-length("(page &i of &page)");
        if eof then do;
            call symput('_FSRTITL', trim(left(_firtitl)));
            call symput('_blankn', compress(put(len,best.)));
        end;
        drop _firtitl _upcas len;
run;

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ods listing close;
ods proclabel = ' ';
* most set up in template others below;
* title arial 12pt bold with 12pt paragraph space below;
* all headers to be arial 11pt bold;
* data arial 10pt;
* headers to be central, text values left aligned and numeric centered
around decimal point;
proc report data = comp missing headline headskip missing nowd split =
'$' %if &i=1 %then %do; contents=' ' %end; %else %do; contents='' %end;;
    column flag page paramn2 param statord stat r1 r2;

    define flag          / order order = internal noprint;
        define page      / order order = internal noprint;
    define paramn2       / order order=internal noprint;
    define param         / group style={just=left cellwidth=2cm}
style(header)={just=center} "Parameter";
    define statord       / order order = internal noprint;
    define stat          / display style={just=left cellwidth=2cm}
style(header)={just=center} "Statistic";
    define r1            / display style={just=c cellwidth=1.5cm}
style(header)={just=center};
    define r2            / display style={just=c cellwidth=1.5cm}
style(header)={just=center};

    break before flag / page %if &i=1 %then %do;
    contents="&_fsrtitl" %end; %else %do; contents='' %end;;

    break after page / page;

    compute after paramn2;
        line " ";
    endcomp;

    compute before page / style={protectspecialchars=off};;
        line "&linetop";
    endcomp;

    compute before _page_ / style={just=left protectspecialchars=off};
        line "\b\fs24\sa24&_FSRTITL." ; * \b = bold, \fs24 is font
size 12pt, \sa24 is space after 12pt;
        line "&linebot";
    endcomp;

    compute after _page_ / style={just=left protectspecialchars=off
pretext="&LINETOP."};

        line 'Note: CC = Conventional cigarettes; THS = Tobacco
Heating System.';
        line 'Note: Geometric: mean, CV% and 95% confidence interval
(CI) are reported.';

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        line ' ';
        LINE 'Appendix 15.3.3.5';
        line "Path: &TFLpath." &_blankn.*"\~\~" "(Page &i of &page)";
        line "Program Run: &sysdate   &sysuserid   Program Status:
&status";
        endcomp;
run;
%end;
ods rtf close;
ods results on;
ods path sashelp.tmplmst (read);

%mend ;

%outrtf(blankn=70, halfblnk=N);
ods listing;
proc printto print = "&table./T_15_02_04_37.lst" new;
run;

proc contents data = table.T_15_02_04_37 varnum;
run;
ods listing close;
proc printto ; run;
*=====;
* END OF PROGRAM CODE                               ;
*=====;
```