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/* Creating the dataset */
data SYC_DAT;
  infile "/home/u63735492/Assignment3STAT854/syc.txt" dlm=',' firstobs=2;
  input stratum psu psusize initwt finalwt randgrp age race ethnicity educ sex livewith famtime crimtype
    everviol numarr probtbn corrinst evertime prviol prprop prdrug prpub prjuv agefirst usewepn alcuse
    everdrug;
  /* Convert missing values to SAS missing values */
  if age = 99 then age = .;
  if race = 9 then race = .;
  if sex = 9 then sex = .;
  if numarr = 99 then numarr = .;
  if prviol = 9 then prviol = .;
  if everdrug = 9 then everdrug = .;

  /* Exclude observations with missing values for the analysis */
  if cmiss(age, numarr, prviol, everdrug) = 0;
run;

/* Formatting the values */
proc format;
  value prviol_form 1 = "yes" 0 = "no";
  value everdrug_form 1 = "yes" 0 = "no";
  value sex_form 1 = "male" 2 = "female";
run;

/* Adding them to the dataset */
data SYC_DAT;
  set SYC_DAT;
  format prviol prviol_form.
    everdrug everdrug_form.
    sex sex_form.
run;

/* part a) - estimate average age of youth in custody */
proc surveymeans mean var clm total = 23655 data = SYC_DAT;
  var age;
  strata stratum;
  weight finalwt;
run;

/* part b) - estimate average # of prior arrests */
proc surveymeans mean var clm total = 23655 data = SYC_DAT;
  var numarr;
  strata stratum;
  weight finalwt;
run;

/* part c) - proportion that have used illegal drugs */
proc surveyfreq total = 23655 data = SYC_DAT;
  tables everdrug / nowt var cl;
  strata stratum;
  weight finalwt;
run;

/* part d) - proportion that have been previously arrested */
proc surveyfreq total = 23655 data = SYC_DAT;
  tables prviol / nowt var cl;
  strata stratum;
  weight finalwt;
run;

/* part e) - have used illegal drugs and been previously arrested for a violent crime */
proc surveyfreq total = 23655 data = SYC_DAT;
  tables everdrug / nowt var cl;
  strata stratum;
  weight finalwt;
  where prviol = 1;
run;

/* part f) - est. proportion of males */
proc surveyfreq total = 23655 data = SYC_DAT;
  tables sex / nowt var cl;
  strata stratum;
  weight finalwt;

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run;

/* part g) - est. proportion of african americans */
proc surveyfreq total = 23655 data = SYC_DAT;
  tables race / nowt var cl;
  strata stratum;
  weight finalwt;
run;

/* part g) - est. proportion of african american males */
proc surveyfreq total = 23655 data = SYC_DAT;
  tables race / nowt var cl;
  strata stratum;
  weight finalwt;
  where sex = 1;
run;
```