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1   /*************************************************************************
2    Program Name: jblubau1_hw12_script
3    Date Created: 11/6/2016
4    Author: Joseph Blubaugh
5    Purpose: Homework Assignment 12
6   ************************************************************************* */
7
8   libname datadb 'C:\Users\Joseph\Projects\learning\Statistics\STAT_604\Materials'
8  ! access=readonly;
NOTE: Libref DATADB was successfully assigned as follows:
      Engine:        V9
      Physical Name: C:\Users\Joseph\Projects\learning\Statistics\STAT_604\Materials
9   libname output 'C:\Users\Joseph\Projects\learning\Statistics\STAT_604\Data';
NOTE: Libref OUTPUT was successfully assigned as follows:
      Engine:        V9
      Physical Name: C:\Users\Joseph\Projects\learning\Statistics\STAT_604\Data
10
11   filename outpdf
11 ! 'C:\Users\Joseph\Projects\learning\Statistics\STAT_604\Homework\jblubau1_hw12_output.pdf';
12
13   * 2) Create a narrow dataset of the scholarship and fund code;
14   data scholar(keep=student_id fund_code i);
15      set datadb.scholarships (keep=student_id fund1-fund10);
16      array fund{10} fund1-fund10;
17      do i=1 to 10;
18         if fund{i} ne . then do;
19         fund_code = fund{i};
20         output;
21         end;
22      end;
23      where student_id is not missing;
24   run;

NOTE: Character values have been converted to numeric values at the places given by:
      (Line):(Column).
      18:12
NOTE: There were 424 observations read from the data set DATADB.SCHOLARSHIPS.
      WHERE student_id is not null;
NOTE: The data set WORK.SCHOLAR has 2243 observations and 3 variables.
NOTE: DATA statement used (Total process time):
      real time          0.01 seconds
      cpu time           0.01 seconds



25
26   * 3) Sort the dataset;
27   proc sort data=scholar;
28      by fund_code;
29   run;

NOTE: There were 2243 observations read from the data set WORK.SCHOLAR.
NOTE: The data set WORK.SCHOLAR has 2243 observations and 3 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time          0.01 seconds
      cpu time           0.01 seconds
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30
31   * 4) Create a sorted dataset of the fund data;
32   proc sort data=datadb.fund_data out=funds;
33       by fund_code;
34   run;

NOTE: There were 255 observations read from the data set DATADB.FUND_DATA.
NOTE: The data set WORK.FUNDS has 255 observations and 3 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


35
36   * 5) Match merge scholar with funds;
37   data together(where=(student_id is not missing));
38       merge funds scholar;
39       by fund_code;
40       drop fund_name;
41   run;

NOTE: There were 255 observations read from the data set WORK.FUNDS.
NOTE: There were 2243 observations read from the data set WORK.SCHOLAR.
NOTE: The data set WORK.TOGETHER has 2243 observations and 4 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


42
43   * 6) Transform data into a wide data set, first need to sort;
44   proc sort data=together;
45       by student_id i;
46   run;

NOTE: There were 2243 observations read from the data set WORK.TOGETHER.
NOTE: The data set WORK.TOGETHER has 2243 observations and 4 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


47
48   proc transpose data=together out=together_wide(drop=_name_ _label_) prefix=fund_type;
49       by student_id;
50       var category;
51       id i;
52   run;

NOTE: There were 2243 observations read from the data set WORK.TOGETHER.
NOTE: The data set WORK.TOGETHER_WIDE has 424 observations and 11 variables.
NOTE: PROCEDURE TRANSPOSE used (Total process time):
      real time           0.03 seconds
      cpu time            0.01 seconds


53
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54   * 7) Merge fund categories back with the original scholarship data;
55   data student_funds(drop=i);
56       merge datadb.scholarships together_wide;
57       by student_id;
58       array fund{10} fund_type1-fund_type10;
59       array amount{10} amount1-amount10;
60       do i=1 to 10;
61          if fund{i} = 'Internal' then do;
62             internal = sum(internal, amount{i});
63          end;
64          if fund{i} = 'Athletic' then do;
65             athletic = sum(athletic, amount{i});
66          end;
67          total = sum(of amount{*});
68       end;
69       if internal = . then internal = 0;
70       if athletic = . then athletic = 0;
71       label internal = 'Internal Scholarships'
72             athletic = 'Athletic Scholarships'
73             total = 'Total Aid';
74   run;

NOTE: There were 424 observations read from the data set DATADB.SCHOLARSHIPS.
NOTE: There were 424 observations read from the data set WORK.TOGETHER_WIDE.
NOTE: The data set WORK.STUDENT_FUNDS has 424 observations and 36 variables.
NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


75
76   * 8) Print the output summaries;
77   ods pdf file=outpdf;
NOTE: Writing ODS PDF output to DISK destination "OUTPDF", printer "PDF".
78
79   * special select to match out instructors output;
80   ods select Attributes EngineHost Position;
81
82   proc contents data=student_funds position;
NOTE: Writing HTML Body file: sashtml.htm
83   run;

NOTE: PROCEDURE CONTENTS used (Total process time):
      real time           0.28 seconds
      cpu time            0.14 seconds


84
85   * close special select ;
86   ods select default;
87
88   proc print data=student_funds label noobs;
89       var student_id name major internal athletic total;
90   run;

NOTE: There were 424 observations read from the data set WORK.STUDENT_FUNDS.
NOTE: PROCEDURE PRINT used (Total process time):
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      real time          0.23 seconds
      cpu time           0.17 seconds


91
92   ods pdf close;
NOTE: ODS PDF printed 15 pages to
      C:\Users\Joseph\Projects\learning\Statistics\STAT_604\Homework\jblubau1_hw12_output.pdf.
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