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1   /*************************************************************************
2    Program Name: jblubau1_hw13_script
3    Date Created: 11/17/2016
4    Author: Joseph Blubaugh
5    Purpose: Homework Assignment 13
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_hw13_output.pdf';
12
13
14   * Split name from school;
15   data runners;
16      set datadb.runners;
17      length Team $ 19;
18      Team = strip(scan(Player, 2, ','));
19      Player = scan(Player, 1, ',');
20   run;

NOTE: There were 100 observations read from the data set DATADB.RUNNERS.
NOTE: The data set WORK.RUNNERS has 100 observations and 11 variables.
NOTE: DATA statement used (Total process time):
      real time          0.01 seconds
      cpu time           0.01 seconds


21
22   * Alter name for common variables;
23   data offenses;
24      set datadb.offences;
25      rename yds = TeamYds
26      avg = TeamAvg
27      TDs = TeamTDs
28      rank = TeamRank
29      Ydspgm = TeamYdspgm
30      Name = Team;
31      drop ties;
32   run;

NOTE: There were 120 observations read from the data set DATADB.OFFENCES.
NOTE: The data set WORK.OFFENSES has 120 observations and 10 variables.
NOTE: DATA statement used (Total process time):
      real time          0.01 seconds
      cpu time           0.00 seconds


33
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```
34   * Sort the data before merging;
35   proc sort data=runners;
36       by team;
37   run;

NOTE: There were 100 observations read from the data set WORK.RUNNERS.
NOTE: The data set WORK.RUNNERS has 100 observations and 11 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time          0.01 seconds
      cpu time           0.01 seconds


38
39   proc sort data=offenses;
40       by team;
41   run;

NOTE: There were 120 observations read from the data set WORK.OFFENSES.
NOTE: The data set WORK.OFFENSES has 120 observations and 10 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time          0.00 seconds
      cpu time           0.00 seconds


42
43
44   * 2) Create the 3 datasets using merge;
45   data output.alldata
46        teamdata(drop=runner)
47        norunners(drop=runner runpct rank player pos cl gm carries net tds avg ydspgm);
48       merge offenses(in=tm) runners(in=rn);
49       by team;
50       format teamydspgm comma3.;
51       runpct = ydspgm / teamydspgm;
52       if tm = 1 and rn = 1 then output teamdata;
53       if tm = 1 and rn = 0 then output norunners;
54       if tm = 1 or  rn = 1 then
55       if rank ne . then runner = 'Yes';
56       if rank =  . then runner = 'No';
57       output output.alldata;
58   run;

NOTE: Missing values were generated as a result of performing an operation on missing values.
      Each place is given by: (Number of times) at (Line):(Column).
      36 at 51:21
NOTE: There were 120 observations read from the data set WORK.OFFENSES.
NOTE: There were 100 observations read from the data set WORK.RUNNERS.
NOTE: The data set OUTPUT.ALLDATA has 136 observations and 22 variables.
NOTE: The data set WORK.TEAMDATA has 100 observations and 21 variables.
NOTE: The data set WORK.NORUNNERS has 36 observations and 10 variables.
NOTE: DATA statement used (Total process time):
      real time          0.03 seconds
      cpu time           0.01 seconds


59
60   * 3) Setup PDF in landscape mode;
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61   options orientation=landscape nonumber dtreset;
62
63   * 4) Reorder norunners by team rank;
64   proc sort data=norunners;
65       by teamrank;
66   run;

NOTE: There were 36 observations read from the data set WORK.NORUNNERS.
NOTE: The data set WORK.NORUNNERS has 36 observations and 10 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time          0.01 seconds
      cpu time           0.01 seconds


67
68   ods pdf file=outpdf;
NOTE: Writing ODS PDF output to DISK destination "OUTPDF", printer "PDF".
69
70   * 5) Print the top 10 teams;
71   proc print data=norunners(obs=10) noobs label;
NOTE: Writing HTML Body file: sashtml.htm
72       var teamrank team plays teamyds teamavg teamydspgm wins losses;
73       label teamrank = "Rank"
74             team = "Team"
75             plays = "Total Plays"
76             teamyds = "Total Yards"
77             teamavg = "Yards per Play"
78             teamydspgm = "Yards per Game";
79       title1 'NCAA Football Rushing Analysis';
80       title2;
81       title3 'Top 10 Offences with No Top Runners';
82       footnote 'Data Downloaded from NCAA.org';
83   run;

NOTE: There were 10 observations read from the data set WORK.NORUNNERS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.28 seconds
      cpu time           0.18 seconds


84
85   * 6) Fix the options to suppress dates;
86   options nodate;
87   ODS NOPROCTITLE;
88
89   * 7) Create a count table for position and class;
90   proc freq data=output.alldata;
91       tables cl*pos / nocum nocol nopercent missing;
92       label pos = "Position"
93             cl = "Class";
94       footnote;
95       title2 'Number of Players in each Position by Class';
96   run;

NOTE: There were 136 observations read from the data set OUTPUT.ALLDATA.
NOTE: PROCEDURE FREQ used (Total process time):
      real time          0.12 seconds
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```
      cpu time           0.06 seconds


97
98   * 8) Use proc means to create a table on calculated field;
99   proc means data = output.ALLDATA maxdec=2 mean median q1 q3;
100      var runpct;
101      class Cl Pos;
102      format RushPct comma2.;
WARNING: Variable RUSHPCT not found in data set OUTPUT.ALLDATA.
103      title2;
104      title3 'Percent of Team Average by Class and Position';
105  run;

NOTE: There were 136 observations read from the data set OUTPUT.ALLDATA.
NOTE: PROCEDURE MEANS used (Total process time):
      real time          0.07 seconds
      cpu time           0.04 seconds


106
107  * 9) Use tabulate to create the same report;
108  proc tabulate data = output.alldata;
109      var Runpct;
110      class Cl Pos;
111      tables cl*pos all, runpct*(n mean median q1 q3);
112      format runpct comma2.;
113      title3 'Percent of Team Average by Class and Position';
114  run;

NOTE: There were 136 observations read from the data set OUTPUT.ALLDATA.
NOTE: PROCEDURE TABULATE used (Total process time):
      real time          0.14 seconds
      cpu time           0.03 seconds


115
116  ods pdf close;
NOTE: ODS PDF printed 4 pages to C:\Users\Joseph\Projects\learning\Statistics\STAT_604\Homework\jblubau1_hw13_output.pdf.
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