

```

1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
NOTE: ODS statements in the SAS Studio environment may disable some
output features.
62
63
/*****
*****/
64          /* Program Name: HW10.sas */
65          /* Date Created: October 18 2017 */
66          /* Author: Dilip Lalwani */
67          /* Purpose: SAS and working with datasets */
68
69          /*#2 Create two libname statements*/
70
71          libname jobsdata '/folders/myfolders/jobsdata/'
access=readonly;
NOTE: Libref JOBSDATA was successfully assigned as follows:
      Engine:          V9
      Physical Name: /folders/myfolders/jobsdata
72          libname hw10 '/folders/myfolders/HW10/';
NOTE: Libref HW10 was successfully assigned as follows:
      Engine:          V9
      Physical Name: /folders/myfolders/HW10
73
74          /*#3 Specify a fileref for PDF output*/
75
76          filename hw10pdf '/folders/myfolders/HW10/hw10.pdf';
77
78          /*#4 Create a new data set using jobs2017 dataset*/
79
80          data hw10.newjobs2017;
81          set jobsdata.jobs2017;
NOTE: Data file JOBSDATA.JOBS2017.DATA is in a format that is native
to another host, or the file encoding does not match the
      session encoding. Cross Environment Data Access will be used,
which might require additional CPU resources and might reduce
      performance.
82          /* a. Remove observations that have a missing State value
*/
83          where State is not missing;
84
85          /* b. Supply labels for all of the month variables so the
full month name and the year will be displayed like "August

```

```

85      ! 2016". */
86      label Aug__2016='August 2016'
87      Sept__2016='September 2016'
88      Oct__2016='October 2016'
89      Nov__2016='November 2016'
90      Dec__2016='December 2016'
91      Jan__2017='January 2017'
92      Feb__2017='February 2017'
93      Mar__2017='March 2017'
94      Apr__2017='April 2017'
95      May__2017='May 2017'
96      June__2017='June 2017'
97      July__2017='July 2017'
98      Aug__2017='August 2017';
99
100     /* c. Create a new variable labeled Report Date */
101
102     reportdate ='12OCT2017'd;
103     FORMAT reportdate MMDDYY10.;
104     LABEL reportdate = 'Report Date';
105
106     /* d. Create a variable labeled Annual Change */
107     annualchange = (Aug__2017-Aug__2016)/Aug__2016;
108     FORMAT annualchange percent8.1;
109     LABEL annualchange = 'Annual Change';
110
111     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).  
6 at 107:27

NOTE: There were 424 observations read from the data set JOBSDATA.JOBS2017.

WHERE State is not null;

NOTE: The data set HW10.NEWJOBS2017 has 424 observations and 17 variables.

NOTE: DATA statement used (Total process time):

real time	0.03 seconds
cpu time	0.01 seconds

```

112
113     /*#5 Create temporary dataset from enhanced dataset having
an annual change of 5 percent or more positive or negative*/
114

```

```

115      data work.BIGCHANGE;
116      set hw10.newjobs2017;
117      where annualchange ne . and ((annualchange*100 ge 5) or
(annualchange*100 le -5));
118      keep reportdate annualchange State Sector Aug__2016
Aug__2017;
119      run;

```

NOTE: There were 25 observations read from the data set  
HW10.NEWJOBS2017.

WHERE (annualchange not = .) and not ((annualchange\*100)>-5  
and (annualchange\*100)<5);

NOTE: The data set WORK.BIGCHANGE has 25 observations and 6  
variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.01 seconds

```

120
121      /*#6 Create temporary dataset for the number of jobs
logic*/
122
123      data work.NEWJUMPS;
124      set hw10.newjobs2017;
125      where Aug__2017 ge July_2017+1 and July_2017 ne .;
126      keep Sector State Jan__2017 Feb__2017 Mar__2017 Apr__2017
May_2017 June_2017
127      July_2017 Aug__2017;
128      run;

```

NOTE: There were 104 observations read from the data set  
HW10.NEWJOBS2017.

WHERE (Aug\_\_2017>=(July\_2017+1)) and (July\_2017 not = .);

NOTE: The data set WORK.NEWJUMPS has 104 observations and 10  
variables.

NOTE: DATA statement used (Total process time):

real time 0.00 seconds

cpu time 0.00 seconds

```

129
130      /*#7 Create temporary dataset of service industries*/
131
132      data work.SERVICES;
133      set hw10.newjobs2017;

```

```

134      where annualchange ne . and Sector like '%SERVICES%';
135      keep State Aug__2016 Aug__2017 annualchange Sector
reportdate;
136      format Aug__2016 Aug__2017 COMMA5.0;
137      run;

```

NOTE: There were 104 observations read from the data set  
HW10.NEWJOBS2017.

WHERE (annualchange not = .) and Sector like '%SERVICES%';

NOTE: The data set WORK.SERVICES has 104 observations and 6  
variables.

NOTE: DATA statement used (Total process time):

real time	0.00 seconds
cpu time	0.01 seconds

```

138
139      /*#8 Create temporary dataset of Southern States*/
140      data work.SOUTHERN;
141      set hw10.newjobs2017;
142      where ( (State in ('Texas', 'Oklahoma', 'Arkansas',
'Louisiana', 'Mississippi', 'Kentucky',
143      'Alabama', 'Florida', 'Georgia', 'South Carolina', 'North
Carolina', 'Virginia'))or (State like
144      'District of Columbia%') or (State like 'Tennessee%') )
and Sector not contains 'GOVERNMENT';
145      keep Sector State annualchange Jan__2017 Feb__2017
Mar__2017 Apr__2017 May__2017 June__2017
146      July__2017 Aug__2017;
147      run;

```

NOTE: There were 98 observations read from the data set  
HW10.NEWJOBS2017.

WHERE (State in ('Alabama', 'Arkansas', 'Florida', 'Georgia',  
'Kentucky', 'Louisiana', 'Mississippi', 'North Carolina',  
'Oklahoma', 'South Carolina', 'Texas', 'Virginia') or State  
like 'District of Columbia%' or State like 'Tennessee%') and  
Sector not contains 'GOVERNMENT';

NOTE: The data set WORK.SOUTHERN has 98 observations and 11  
variables.

NOTE: DATA statement used (Total process time):

real time	0.00 seconds
cpu time	0.01 seconds

```

149      /*#9 Open a PDF destination using the fileref above*/
150
151      ods pdf file=hw10pdf bookmarkgen=no;
NOTE: Writing ODS PDF output to DISK destination "HW10PDF", printer
"PDF".
152
153      /*#10 Print descriptor of cleaned up jobs dataset*/
154      proc contents data=hw10.newjobs2017;
155      title '#10. Descriptor Portion of Cleaned Jobs DataSet';
156      run;

```

```

NOTE: PROCEDURE CONTENTS used (Total process time):
      real time          0.11 seconds
      cpu time           0.12 seconds

```

```

157
158      /*#11 Print a listing of all temporary data sets excludes
the details*/
159      proc contents data=work._all_ nods;
160      title '#11. List of Temporary Data Sets';
161      run;

```

```

NOTE: PROCEDURE CONTENTS used (Total process time):
      real time          0.03 seconds
      cpu time           0.03 seconds

```

```

162
163      /*#12 Print data portion of temporary dataset
work.BIGCHANGE*/
164      proc print data=work.BIGCHANGE label noobs;
165      title '#12 Records with over 5% Annual Change';
166      var /*report_date*/ annualchange State Sector Aug__2017
Aug__2016;
167      run;

```

NOTE: There were 25 observations read from the data set  
WORK.BIGCHANGE.

```

NOTE: PROCEDURE PRINT used (Total process time):
      real time          0.06 seconds
      cpu time           0.06 seconds

```

```

168

```

```

169          /*#13 Print data portion of temporary dataset
work.NEWJUMPS*/
170          proc print data=work.NEWJUMPS label noobs;
171              title '#13 Records with Recently Monthly Increase';
172              var Sector State Jan__2017 Feb__2017 Mar__2017 Apr__2017
May_2017 June_2017 July_2017
173              Aug__2017;
174              run;

```

NOTE: There were 104 observations read from the data set  
WORK.NEWJUMPS.

NOTE: PROCEDURE PRINT used (Total process time):

real time	0.29 seconds
cpu time	0.29 seconds

```

175
176          /*#13 Print data portion of temporary dataset
work.SERVICES*/
177          proc print data=work.SERVICES label;
178              title '#13 Services';
179              var State Aug__2016 Aug__2017 annualchange Sector
reportdate;
180              run;

```

NOTE: There were 104 observations read from the data set  
WORK.SERVICES.

NOTE: PROCEDURE PRINT used (Total process time):

real time	0.26 seconds
cpu time	0.25 seconds

```

181
182          /*#13 Print data portion of temporary dataset
work.SOUTHERN*/
183          proc print data=work.SOUTHERN label noobs;
184              title '#13 SOUTHERN States';
185              var Sector State Jan__2017 Feb__2017 Mar__2017 Apr__2017
May_2017 June_2017 July_2017 Aug__2017 annualchange;
186              run;

```

NOTE: There were 98 observations read from the data set  
WORK.SOUTHERN.

NOTE: PROCEDURE PRINT used (Total process time):

real time	0.32 seconds
cpu time	0.33 seconds

187

188           ods pdf close;

NOTE: ODS PDF printed 14 pages to /folders/myfolders/HW10/hw10.pdf.

189

190           OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;

203