```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
 NOTE: ODS statements in the SAS Studio environment may disable some
output features.
 62
 63
/*************************************************************************
*******************/
 64        /* Program Name:    pulkit.jain_HW10.sas    */
 65        /* Program Location: C:\Users\Pulkit
Jain\Documents\sasuniversityedition\myfolders\assign10 */
 66        /* Date Created:    10/14/2017          */
 67        /* Author:  Pulkit Jain                      */
 68        /* Purpose:   Assignment 10, practice with accessing sas
data, and view content      */
 69
/*************************************************************************
*******************/
 70
 71        /* 2 Create two libname statements;   */
 72        /* Assign library to locaion of hw data with access only; */
 73        /* Assign another library with read and write access;    */
 74
 75        libname hw_data '/folders/myfolders/hw_data' access=readonly;
 NOTE: Libref HW_DATA was successfully assigned as follows:
      Engine:        V9
      Physical Name: /folders/myfolders/hw_data
 76        libname pulkit10 '/folders/myfolders/assign10';
 NOTE: Libref PULKIT10 was successfully assigned as follows:
      Engine:        V9
      Physical Name: /folders/myfolders/assign10
 77
 78        /* 3 Specify a fileref to designate output of pdf */
 79
 80        filename HW10
'/folders/myfolders/assign10/pulkit.jain_HW10_output.pdf';
 81
 82        /* 4 Filter new data for following conditions   */
 83        /*   State is Not Equal to Blank/missing. All 3 syntax work
here. */
 84        /*   Supply labels for months to display full month name  */
 85        /*   SAS dates are relative to 1/1/1960 */
 86
 87
 88        data pulkit10.jobs2017;
 89          set hw_data.jobs2017;
 NOTE: Data file HW_DATA.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.
 90        /*   where State ne ''; */
 91        /*   where State is not missing; */
 92           where State is not null;
```

```
93                  label Aug__2016 = "August 2016"
94                 Sept__2016 = "September 2016"
95                  Oct__2016 = "October 2016"
96                 Nov__2016 = "November 2016"
97                 Dec__2016 = "December 2016"
98                  Jan__2017 = "January 2017"
99                  Feb__2017 = "February 2017"
100                 Mar__2017 = "March 2017"
101                 Apr__2017 = "April 2017"
102                 May_2017 = "May 2017"
103                 June_2017 = "June 2017"
104                 July_2017 = "July 2017"
105                 Aug__2017 = "August 2017"
106                 ;
107                 report_date = 21104;
108                 label report_date = "Report Date";
109                 format report_date mmddyy10.;
110                 annual_change = (Aug__2017 - Aug__2016 ) / Aug__2016;
111                 label annual_change = "Annual Change";
112                 format annual_change percent8.1;
113
114        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 110:35
 NOTE: There were 424 observations read from the data set
HW_DATA.JOBS2017.
        WHERE State is not null;
 NOTE: The data set PULKIT10.JOBS2017 has 424 observations and 17
variables.
 NOTE: DATA statement used (Total process time):
        real time              0.04 seconds
        cpu time               0.02 seconds



 115
 116        /* 5  Create temporary datasets with specific conditions*/
 117        /*    Data with Current rate >5% and specific variables*/
 118
 119        data work.jobs_5;
 120           set pulkit10.jobs2017;
 121           where (annual_change >0.05 or
 122             annual_change < -0.05 ) and
 123             annual_change is not missing;
 124           keep Sector
 125           State
 126           Aug__2016
 127           Aug__2017
 128           report_date
 129        annual_change;
 130        run;
```

```
 NOTE: There were 25 observations read from the data set
PULKIT10.JOBS2017.
      WHERE  not (annual_change>=-0.05 and annual_change<=0.05) and
(annual_change is not null);
 NOTE: The data set WORK.JOBS_5 has 25 observations and 6 variables.
 NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


 131
 132         /* 6 Data where jobs in august 2017 is at least 1 more than
jobs in July 2017 */
 133
 134        data work.jobs_aug;
 135           set pulkit10.jobs2017;
 136           where aug__2017 >= july_2017 + 1 and
 137            annual_change is not missing;
 138           drop Aug__2016
 139            Sept__2016
 140             Oct__2016
 141            Nov__2016
 142            Dec__2016
 143           report_date
 144        annual_change;
 145        run;

 NOTE: There were 104 observations read from the data set
PULKIT10.JOBS2017.
      WHERE (aug__2017>=(july_2017+1)) and (annual_change is not null);
 NOTE: The data set WORK.JOBS_AUG has 104 observations and 10 variables.
 NOTE: DATA statement used (Total process time):
      real time           0.01 seconds
      cpu time            0.02 seconds


 146
 147         /* 7 When Industry has the work "services" in it. Remove when
annual_change is missing */
 148         /*   Stay vigilant with case */
 149
 150        data work.jobs_services;
 151           set pulkit10.jobs2017;
 152           where sector like "%SERVICES%" and annual_change is not
missing;
 WARNING: Apparent invocation of macro SERVICES not resolved.
 153           keep sector
 154           state
 155           Aug__2016
 156           Aug__2017
 157           annual_change
 158           report_date;
 159           Aug__2016 = round(Aug__2016,1);
 160           Aug__2017 = round(Aug__2017,1);
```

```
161        format Aug__2016 comma6.0;
162        format Aug__2017 comma6.0;
163
164     run;
```

 NOTE: There were 104 observations read from the data set
PULKIT10.JOBS2017.
       WHERE sector like '%SERVICES%' and (annual_change is not null);
 NOTE: The data set WORK.JOBS_SERVICES has 104 observations and 6
variables.
 NOTE: DATA statement used (Total process time):
       real time   0.01 seconds
       cpu time   0.00 seconds

```
165
166        /* 8 Filter for states of Texas, Oklahoma, Arkansas,
Louisiana, Mississippi, Kentucky,
167           Tennessee, Alabama, Florida, Georgia, South Carolina,
North Carolina, Virginia and
168           District of Columbia */
169
170     data work.jobs_states;
171        set pulkit10.jobs2017;
172        where ( state in ('Texas', 'Oklahoma', 'Arkansas',
173        'Louisiana', 'Mississippi', 'Kentucky',
174        'Alabama', 'Florida', 'Georgia',
175        'South Carolina', 'North Carolina', 'Virginia') OR
176          state Like ('Tennessee%') OR
177          state Like ('District of Columbia%')
178         ) AND
179         sector NOT Like '%GOVERNMENT%';
180        drop Aug__2016
181        Sept__2016
182        Oct__2016
183        Nov__2016
184        Dec__2016
185        report_date;
186     run;
```

 NOTE: There were 98 observations read from the data set
PULKIT10.JOBS2017.
       WHERE (state in ('Alabama', 'Arkansas', 'Florida', 'Georgia',
'Kentucky', 'Louisiana', 'Mississippi', 'North Carolina',
       'Oklahoma', 'South Carolina', 'Texas', 'Virginia') or state like
'Tennessee%' or state like 'District of Columbia%') and
       sector not like '%GOVERNMENT%';
 NOTE: The data set WORK.JOBS_STATES has 98 observations and 11
variables.
 NOTE: DATA statement used (Total process time):
       real time   0.01 seconds
       cpu time   0.02 seconds

```
 187
 188        /* 9 Open a pdf using fileref created above, without
bookmarks*/
 189
 190        ods pdf file = HW10 bookmarkgen= no;
 NOTE: Writing ODS PDF output to DISK destination "HW10", printer "PDF".
 191
 192        /* 10 descriptor portion of the cleaned up jobs data set
created in step 4 */
 193
 194        title '#10. Descriptor Portion of Cleaned Jobs Data Set';
 195        PROC CONTENTS data = pulkit10.jobs2017;
 196        RUN;

 NOTE: PROCEDURE CONTENTS used (Total process time):
       real time           0.12 seconds
       cpu time            0.10 seconds


 197
 198        /* 11 listing of all temporary data sets that excludes the
details of each data set */
 199
 200        title '#11. List of Temporary Data Sets';
 201        PROC CONTENTS data = work._ALL_ nods;
 202        RUN;

 NOTE: PROCEDURE CONTENTS used (Total process time):
       real time           0.05 seconds
       cpu time            0.05 seconds


 203
 204        /* 12 Print the data portion created in step 5 */
 205
 206        title '#12 Records with over 5% Annual Change';
 207        PROC Print data = work.jobs_5 label NoObs;
 208        var
 209        /* report_data */
 210        annual_change
 211        state
 212        sector
 213        aug__2017
 214        aug__2016;
 215        RUN;

 NOTE: There were 25 observations read from the data set WORK.JOBS_5.
 NOTE: PROCEDURE PRINT used (Total process time):
       real time           0.07 seconds
       cpu time            0.07 seconds


 216
```

```
217          /* 13 Print data portion of each of the temporary data sets
created in steps 6 - 8 */
218
219          title '#13 Records with Recent Monthly Increase';
220          PROC Print data = work.jobs_aug label NoObs;
221          var sector
222          state
223          jan__2017
224          feb__2017
225          mar__2017
226          apr__2017
227          may_2017
228          june_2017
229          july_2017
230          aug__2017;
231          RUN;

NOTE: There were 104 observations read from the data set WORK.JOBS_AUG.
NOTE: PROCEDURE PRINT used (Total process time):
      real time            0.36 seconds
      cpu time             0.34 seconds


232
233
234          title '#13 Services';
235          PROC Print data = work.jobs_services label;
236          var state
237          aug__2016
238          aug__2017
239          annual_change
240          sector
241          report_date;
242
243          RUN;

NOTE: There were 104 observations read from the data set
WORK.JOBS_SERVICES.
NOTE: PROCEDURE PRINT used (Total process time):
      real time            0.26 seconds
      cpu time             0.27 seconds

243       !

244
245          title '#13 Southern States';
246          PROC Print data = work.jobs_states label NoObs;
247          var sector
248          state
249          jan__2017
250          feb__2017
251          mar__2017
252          apr__2017
253          may_2017
```

```
254          june_2017
255          july_2017
256          aug__2017
257          annual_change;
258          RUN;


 NOTE: There were 98 observations read from the data set
WORK.JOBS_STATES.
 NOTE: PROCEDURE PRINT used (Total process time):
       real time            0.37 seconds
       cpu time             0.37 seconds


 259
 260        ods pdf close;
 NOTE: ODS PDF printed 14 pages to
/folders/myfolders/assign10/pulkit.jain_HW10_output.pdf.
 261        ods listing;
 262
 263        OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
 276
```