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/*****
*****/
/* Program Name:      pulkit.jain_HW10.sas
                                   */

/* Program Location: C:\Users\Pulkit
Jain\Documents\sasuniversityedition\myfolders\assign10 */
/* Date Created:      10/14/2017
                                   */

/* Author:            Pulkit Jain
                                   */

/* Purpose:            Assignment 10, practice with accessing sas data,
and view content      */
/*****
*****/

/* 2 Create two libname statements;
                                   */
/* Assign library to locaion of hw data with access only; */
/* Assign another library with read and write access;      */

libname hw_data '/folders/myfolders/hw_data' access=readonly;
libname pulkit10 '/folders/myfolders/assign10';

/* 3 Specify a fileref to designate output of pdf */

filename HW10 '/folders/myfolders/assign10/pulkit.jain_HW10_output.pdf';

/* 4 Filter new data for following conditions
      */
/* State is Not Equal to Blank/missing. All 3 syntax work here.
      */
/* Supply labels for months to display full month name
      */
/* SAS dates are relative to 1/1/1960
      */

data pulkit10.jobs2017;
    set hw_data.jobs2017;
/*     where State ne ''; */
/*     where State is not missing; */
    where State is not null;
    label Aug__2016 = "August 2016"
           Sept__2016 = "September 2016"
           Oct__2016 = "October 2016"
           Nov__2016 = "November 2016"
           Dec__2016 = "December 2016"
           Jan__2017 = "January 2017"
           Feb__2017 = "February 2017"
           Mar__2017 = "March 2017"
           Apr__2017 = "April 2017"
           May__2017 = "May 2017"
           June__2017 = "June 2017"
           July__2017 = "July 2017"
           Aug__2017 = "August 2017"
    ;
    report_date = 21104;

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        label report_date = "Report Date";
        format report_date mmddyy10.;
        annual_change = (Aug__2017 - Aug__2016 ) / Aug__2016;
        label annual_change = "Annual Change";
        format annual_change percent8.1;

run;

/* 5 Create temporary datasets with specific conditions*/
/* Data with Current rate >5% and specific variables*/

data work.jobs_5;
    set pulkit10.jobs2017;
    where (annual_change >0.05 or
           annual_change < -0.05 ) and
           annual_change is not missing;
    keep Sector
        State
        Aug__2016
        Aug__2017
        report_date
        annual_change;

run;

/* 6 Data where jobs in august 2017 is at least 1 more than jobs in July
2017 */

data work.jobs_aug;
    set pulkit10.jobs2017;
    where aug__2017 >= july_2017 + 1 and
           annual_change is not missing;
    drop Aug__2016
        Sept__2016
        Oct__2016
        Nov__2016
        Dec__2016
        report_date
        annual_change;

run;

/* 7 When Industry has the work "services" in it. Remove when
annual_change is missing */
/* Stay vigilant with case */

data work.jobs_services;
    set pulkit10.jobs2017;
    where sector like "%SERVICES%" and annual_change is not missing;
    keep sector
        state
        Aug__2016
        Aug__2017
        annual_change
        report_date;
    Aug__2016 = round(Aug__2016,1);

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        Aug__2017 = round(Aug__2017,1);
format Aug__2016 comma6.0;
format Aug__2017 comma6.0;

run;

/* 8 Filter for states of Texas, Oklahoma, Arkansas, Louisiana,
Mississippi, Kentucky,
    Tennessee, Alabama, Florida, Georgia, South Carolina, North
Carolina, Virginia and
    District of Columbia */

data work.jobs_states;
    set pulkit10.jobs2017;
    where ( state in ('Texas', 'Oklahoma', 'Arkansas',
                        'Louisiana', 'Mississippi', 'Kentucky',
                        'Alabama', 'Florida', 'Georgia',
                        'South Carolina', 'North Carolina',
'Virginia') OR
            state Like ('Tennessee%') OR
            state Like ('District of Columbia%')
            ) AND
            sector NOT Like '%GOVERNMENT%';
    drop Aug__2016
          Sept__2016
          Oct__2016
          Nov__2016
          Dec__2016
          report_date;

run;

/* 9 Open a pdf using fileref created above, without bookmarks*/

ods pdf file = HW10 bookmarkgen= no;

/* 10 descriptor portion of the cleaned up jobs data set created in step
4 */

title '#10. Descriptor Portion of Cleaned Jobs Data Set';
PROC CONTENTS data = pulkit10.jobs2017;
RUN;

/* 11 listing of all temporary data sets that excludes the details of
each data set */

title '#11. List of Temporary Data Sets';
PROC CONTENTS data = work._ALL_ nods;
RUN;

/* 12 Print the data portion created in step 5 */

title '#12 Records with over 5% Annual Change';
PROC Print data = work.jobs_5 label NoObs;
    var

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        /*      report_data */
        annual_change
        state
        sector
        aug__2017
        aug__2016;
RUN;

/* 13 Print data portion of each of the temporary data sets created in
steps 6 - 8 */

title '#13 Records with Recent Monthly Increase';
PROC Print data = work.jobs_aug label NoObs;
    var sector
        state
        jan__2017
        feb__2017
        mar__2017
        apr__2017
        may_2017
        june_2017
        july_2017
        aug__2017;
RUN;

title '#13 Services';
PROC Print data = work.jobs_services label;
    var state
        aug__2016
        aug__2017
        annual_change
        sector
        report_date;
RUN;

title '#13 Southern States';
PROC Print data = work.jobs_states label NoObs;
    var sector
        state
        jan__2017
        feb__2017
        mar__2017
        apr__2017
        may_2017
        june_2017
        july_2017
        aug__2017
        annual_change;
RUN;

ods pdf close;
ods listing;

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