```
1          ;*';*";*/;quit;run;
2          OPTIONS PAGENO=MIN;
3          %LET _CLIENTTASKLABEL='Linear Regression';
4          %LET _CLIENTPROCESSFLOWNAME='Process Flow';
5          %LET _CLIENTPROJECTPATH='\\tsclient\C\Users\hp\Documents\6310
econometrics\Project.egp';
6          %LET _CLIENTPROJECTPATHHOST='MAJAVA1';
7          %LET _CLIENTPROJECTNAME='Project.egp';
8
9          ODS _ALL_ CLOSE;
10         ODS PROCTITLE;
11         OPTIONS DEV=SVG;
12         GOPTIONS XPIXELS=0 YPIXELS=0;
13         %macro HTML5AccessibleGraphSupported;
14             %if %_SAS_VERCOMP(9, 4, 4) >= 0 %then ACCESSIBLE_GRAPH;
15         %mend;
16         FILENAME EGHTML TEMP;
17         ODS HTML5(ID=EGHTML) FILE=EGHTML
18             OPTIONS(BITMAP_MODE='INLINE')
19             %HTML5AccessibleGraphSupported
20             ENCODING='utf-8'
21             STYLE=HtmlBlue
22             NOGTITLE
23             NOGFOOTNOTE
24             GPATH=&sasworklocation
25         ;
NOTE: Writing HTML5(EGHTML) Body file: EGHTML
26
27         /* ---------------------------------------------------------------------
28            Code generated by SAS Task
29
30            Generated on: Thursday, October 8, 2020 at 12:57:10 PM
31            By task: Linear Regression
32
33            Input Data: Local:WORK.GS12Y
34            Server:  Local
35            ---------------------------------------------------------------------
*/
36         ODS GRAPHICS ON;
37
38         %_eg_conditional_dropds(WORK.SORTTempTableSorted,
39               WORK.TMP1TempTableForPlots);
40         /* ---------------------------------------------------------------------
41            Determine the data set's type attribute (if one is defined)
42            and prepare it for addition to the data set/view which is
43            generated in the following step.
44            ---------------------------------------------------------------------
*/
45         DATA _NULL_;
46          dsid = OPEN("WORK.GS12Y", "I");
47          dstype = ATTRC(DSID, "TYPE");
48          IF TRIM(dstype) = " " THEN
49               DO;
50               CALL SYMPUT("_EG_DSTYPE_", "");
51               CALL SYMPUT("_DSTYPE_VARS_", "");
52               END;
```

```
53          ELSE
54                DO;
55                CALL SYMPUT("_EG_DSTYPE_", "(TYPE=""" || TRIM(dstype) || """)");
56                IF VARNUM(dsid, "_NAME_") NE 0 AND VARNUM(dsid, "_TYPE_") NE 0
THEN
57                     CALL SYMPUT("_DSTYPE_VARS_", "_TYPE_ _NAME_");
2                                                     The SAS System
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58                ELSE IF VARNUM(dsid, "_TYPE_") NE 0 THEN
59                     CALL SYMPUT("_DSTYPE_VARS_", "_TYPE_");
60                ELSE IF VARNUM(dsid, "_NAME_") NE 0 THEN
61                     CALL SYMPUT("_DSTYPE_VARS_", "_NAME_");
62                ELSE
63                     CALL SYMPUT("_DSTYPE_VARS_", "");
64                END;
65          rc = CLOSE(dsid);
66          STOP;
67         RUN;

NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds


68
69         /* ---------------------------------------------------------------
70            Data set WORK.GS12Y does not need to be sorted.
71            ---------------------------------------------------------------
*/
72         DATA WORK.SORTTempTableSorted &_EG_DSTYPE_ /
VIEW=WORK.SORTTempTableSorted;
73          SET
73       ! WORK.GS12Y(KEEP=Returns "Return on the S&P 500 Index"n &_DSTYPE_VARS_);
WARNING: Apparent symbolic reference P not resolved.
74         RUN;

NOTE: DATA STEP view saved on file WORK.SORTTEMPTABLESORTED.
NOTE: A stored DATA STEP view cannot run under a different operating system.
NOTE: DATA statement used (Total process time):
      real time           0.04 seconds
      cpu time            0.03 seconds


75         TITLE;
76         TITLE1 "Linear Regression Results";
77         FOOTNOTE;
78         FOOTNOTE1 "Generated by SAS (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%QSYSFUNC(TIME(),
78       !  NLTIMAP25.))";
79         PROC REG DATA=WORK.SORTTempTableSorted
80                PLOTS(ONLY)=ALL
WARNING: Apparent symbolic reference P not resolved.
81          ;
82          Linear_Regression_Model: MODEL Returns = "Return on the S&P 500 Index"n
WARNING: Apparent symbolic reference P not resolved.
83                /           SELECTION=NONE
84          ;
85         RUN;
```

```
86         QUIT;

NOTE: View WORK.SORTTEMPTABLESORTED.VIEW used (Total process time):
      real time           27.33 seconds
      cpu time            7.40 seconds

NOTE: There were 3021 observations read from the data set WORK.GS12Y.
NOTE: PROCEDURE REG used (Total process time):
      real time           27.37 seconds
      cpu time            7.42 seconds
3                                                      The SAS System
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87
88         /* ---------------------------------------------------------------
89            End of task code
90            ---------------------------------------------------------------
*/
91         RUN; QUIT;
92         %_eg_conditional_dropds(WORK.SORTTempTableSorted,
93               WORK.TMP1TempTableForPlots);
NOTE: View WORK.SORTTEMPTABLESORTED has been dropped.
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.03 seconds
      cpu time            0.00 seconds


94         TITLE; FOOTNOTE;
95         ODS GRAPHICS OFF;
96
97
98         %LET _CLIENTTASKLABEL=;
99         %LET _CLIENTPROCESSFLOWNAME=;
100        %LET _CLIENTPROJECTPATH=;
101        %LET _CLIENTPROJECTPATHHOST=;
102        %LET _CLIENTPROJECTNAME=;
103
104        ;*';*";*/;quit;run;
105        ODS _ALL_ CLOSE;
106
107
108        QUIT; RUN;
109
```

```
/* ---------------------------------------------------------------------
   Code generated by SAS Task

   Generated on: Thursday, October 8, 2020 at 12:57:10 PM
   By task: Linear Regression

   Input Data: Local:WORK.GS12Y
   Server:  Local
   ---------------------------------------------------------------------
*/
ODS GRAPHICS ON;

%_eg_conditional_dropds(WORK.SORTTempTableSorted,
          WORK.TMP1TempTableForPlots);
/* ---------------------------------------------------------------------
   Determine the data set's type attribute (if one is defined)
   and prepare it for addition to the data set/view which is
   generated in the following step.
   ---------------------------------------------------------------------
*/
DATA _NULL_;
      dsid = OPEN("WORK.GS12Y", "I");
      dstype = ATTRC(DSID, "TYPE");
      IF TRIM(dstype) = " " THEN
            DO;
            CALL SYMPUT("_EG_DSTYPE_", "");
            CALL SYMPUT("_DSTYPE_VARS_", "");
            END;
      ELSE
            DO;
            CALL SYMPUT("_EG_DSTYPE_", "(TYPE=""" || TRIM(dstype) ||
""")");
            IF VARNUM(dsid, "_NAME_") NE 0 AND VARNUM(dsid, "_TYPE_")
NE 0 THEN
                  CALL SYMPUT("_DSTYPE_VARS_", "_TYPE_ _NAME_");
            ELSE IF VARNUM(dsid, "_TYPE_") NE 0 THEN
                  CALL SYMPUT("_DSTYPE_VARS_", "_TYPE_");
            ELSE IF VARNUM(dsid, "_NAME_") NE 0 THEN
                  CALL SYMPUT("_DSTYPE_VARS_", "_NAME_");
            ELSE
                  CALL SYMPUT("_DSTYPE_VARS_", "");
            END;
      rc = CLOSE(dsid);
      STOP;
RUN;

/* ---------------------------------------------------------------------
   Data set WORK.GS12Y does not need to be sorted.
   ---------------------------------------------------------------------
*/
DATA WORK.SORTTempTableSorted &_EG_DSTYPE_ /
VIEW=WORK.SORTTempTableSorted;
```

```
      SET WORK.GS12Y(KEEP=Returns "Return on the S&P 500 Index"n
&_DSTYPE_VARS_);
RUN;
TITLE;
TITLE1 "Linear Regression Results";
FOOTNOTE;
FOOTNOTE1 "Generated by SAS (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%QSYSFUNC(TIME(),
NLTIMAP25.))";
PROC REG DATA=WORK.SORTTempTableSorted
            PLOTS(ONLY)=ALL
      ;
      Linear_Regression_Model: MODEL Returns = "Return on the S&P 500
Index"n
            /           SELECTION=NONE
      ;
RUN;
QUIT;

/* ---------------------------------------------------------------------
   End of task code
   ---------------------------------------------------------------------
*/
RUN; QUIT;
%_eg_conditional_dropds(WORK.SORTTempTableSorted,
            WORK.TMP1TempTableForPlots);
TITLE; FOOTNOTE;
ODS GRAPHICS OFF;
```

```
1          ;*';*";*/;quit;run;
2          OPTIONS PAGENO=MIN;
3          %LET _CLIENTTASKLABEL='Regression Analysis with Autoregressive Errors';
4          %LET _CLIENTPROCESSFLOWNAME='Process Flow';
5          %LET _CLIENTPROJECTPATH='';
6          %LET _CLIENTPROJECTPATHHOST='';
7          %LET _CLIENTPROJECTNAME='';
8
9          ODS _ALL_ CLOSE;
10         ODS PROCTITLE;
11         OPTIONS DEV=SVG;
12         GOPTIONS XPIXELS=0 YPIXELS=0;
13         %macro HTML5AccessibleGraphSupported;
14             %if %_SAS_VERCOMP(9, 4, 4) >= 0 %then ACCESSIBLE_GRAPH;
15         %mend;
16         FILENAME EGHTML TEMP;
17         ODS HTML5(ID=EGHTML) FILE=EGHTML
18             OPTIONS(BITMAP_MODE='INLINE')
19             %HTML5AccessibleGraphSupported
20             ENCODING='utf-8'
21             STYLE=HtmlBlue
22             NOGTITLE
23             NOGFOOTNOTE
24             GPATH=&sasworklocation
25         ;
NOTE: Writing HTML5(EGHTML) Body file: EGHTML
26
27         /* ---------------------------------------------------------------------
28            Code generated by SAS Task
29
30            Generated on: Sunday, October 4, 2020 at 11:43:18 AM
31            By task: Regression Analysis with Autoregressive Errors
32
33            Input Data: Local:WORK.GS12Y
34            Server:  Local
35            ---------------------------------------------------------------------
*/
36         ODS GRAPHICS ON;
37
38         %_eg_conditional_dropds(WORK.SORTTempTableSorted);
39         /* ---------------------------------------------------------------------
40            Sort data set Local:WORK.GS12Y
41            ---------------------------------------------------------------------
*/
42
43         PROC SQL;
44          CREATE VIEW WORK.SORTTempTableSorted AS
45                SELECT T."Return on the S&P 500 Index"n
WARNING: Apparent symbolic reference P not resolved.
46          FROM WORK.GS12Y as T
47         ;
NOTE: SQL view WORK.SORTTEMPTABLESORTED has been defined.
48         QUIT;
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.03 seconds
      cpu time            0.00 seconds
```

```
49         TITLE;
50         TITLE1 "Regression Analysis with Autoregressive Errors";
2                                                         The SAS System
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51         FOOTNOTE;
52         FOOTNOTE1 "Generated by SAS (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%QSYSFUNC(TIME(),
52       !  NLTIMAP25.))";
53         PROC AUTOREG DATA = WORK.SORTTempTableSorted
54               PLOTS(ONLY)=NONE
55         ;
56          MODEL "Return on the S&P 500 Index"n = /
WARNING: Apparent symbolic reference P not resolved.
57          METHOD=ML
58          MAXITER=50
59          NLAG=5
60               DW=5
61          ;
62         RUN;

NOTE: There were 3021 observations read from the data set WORK.GS12Y.
NOTE: PROCEDURE AUTOREG used (Total process time):
      real time           1.96 seconds
      cpu time            0.89 seconds


62       !     QUIT;TITLE;
63         /* ---------------------------------------------------------------
64            End of task code
65            ---------------------------------------------------------------
*/
66         RUN; QUIT;
67         %_eg_conditional_dropds(WORK.SORTTempTableSorted);
NOTE: View WORK.SORTTEMPTABLESORTED has been dropped.
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds


68         TITLE; FOOTNOTE;
69         ODS GRAPHICS OFF;
70
71
72         %LET _CLIENTTASKLABEL=;
73         %LET _CLIENTPROCESSFLOWNAME=;
74         %LET _CLIENTPROJECTPATH=;
75         %LET _CLIENTPROJECTPATHHOST=;
76         %LET _CLIENTPROJECTNAME=;
77
78         ;*';*";*/;quit;run;
79         ODS _ALL_ CLOSE;
80
81
82         QUIT; RUN;
83
```

```
/* ---------------------------------------------------------------------
   Code generated by SAS Task

   Generated on: Sunday, October 4, 2020 at 11:43:18 AM
   By task: Regression Analysis with Autoregressive Errors

   Input Data: Local:WORK.GS12Y
   Server:  Local
   ---------------------------------------------------------------------
*/
ODS GRAPHICS ON;

%_eg_conditional_dropds(WORK.SORTTempTableSorted);
/* ---------------------------------------------------------------------
   Sort data set Local:WORK.GS12Y
   ---------------------------------------------------------------------
*/

PROC SQL;
     CREATE VIEW WORK.SORTTempTableSorted AS
          SELECT T."Return on the S&P 500 Index"n
     FROM WORK.GS12Y as T
;
QUIT;
TITLE;
TITLE1 "Regression Analysis with Autoregressive Errors";
FOOTNOTE;
FOOTNOTE1 "Generated by SAS (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%QSYSFUNC(TIME(),
NLTIMAP25.))";
PROC AUTOREG DATA = WORK.SORTTempTableSorted
          PLOTS(ONLY)=NONE
;
     MODEL "Return on the S&P 500 Index"n = /
     METHOD=ML
     MAXITER=50
     NLAG=5
          DW=5
     ;
RUN;QUIT;TITLE;
/* ---------------------------------------------------------------------
   End of task code
   ---------------------------------------------------------------------
*/
RUN; QUIT;
%_eg_conditional_dropds(WORK.SORTTempTableSorted);
TITLE; FOOTNOTE;
ODS GRAPHICS OFF;
```

```
1          ;*';*";*/;quit;run;
2          OPTIONS PAGENO=MIN;
3          %LET _CLIENTTASKLABEL='Regression Analysis with Autoregressive Errors
1';
4          %LET _CLIENTPROCESSFLOWNAME='Process Flow';
5          %LET _CLIENTPROJECTPATH='';
6          %LET _CLIENTPROJECTPATHHOST='';
7          %LET _CLIENTPROJECTNAME='';
8
9          ODS _ALL_ CLOSE;
10         ODS PROCTITLE;
11         OPTIONS DEV=SVG;
12         GOPTIONS XPIXELS=0 YPIXELS=0;
13         %macro HTML5AccessibleGraphSupported;
14             %if %_SAS_VERCOMP(9, 4, 4) >= 0 %then ACCESSIBLE_GRAPH;
15         %mend;
16         FILENAME EGHTML TEMP;
17         ODS HTML5(ID=EGHTML) FILE=EGHTML
18             OPTIONS(BITMAP_MODE='INLINE')
19             %HTML5AccessibleGraphSupported
20             ENCODING='utf-8'
21             STYLE=HtmlBlue
22             NOGTITLE
23             NOGFOOTNOTE
24             GPATH=&sasworklocation
25         ;
NOTE: Writing HTML5(EGHTML) Body file: EGHTML
26
27         /* ---------------------------------------------------------------------
28            Code generated by SAS Task
29
30            Generated on: Sunday, October 4, 2020 at 11:44:22 AM
31            By task: Regression Analysis with Autoregressive Errors 1
32
33            Input Data: Local:WORK.GS12Y
34            Server:  Local
35            ---------------------------------------------------------------------
*/
36         ODS GRAPHICS ON;
37
38         %_eg_conditional_dropds(WORK.SORTTempTableSorted);
39         /* ---------------------------------------------------------------------
40            Sort data set Local:WORK.GS12Y
41            ---------------------------------------------------------------------
*/
42
43         PROC SQL;
44          CREATE VIEW WORK.SORTTempTableSorted AS
45                SELECT T.Returns
46          FROM WORK.GS12Y as T
47         ;
NOTE: SQL view WORK.SORTTEMPTABLESORTED has been defined.
48         QUIT;
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.03 seconds
      cpu time            0.03 seconds
```

```
49         TITLE;
50         TITLE1 "Regression Analysis with Autoregressive Errors";
51         FOOTNOTE;
2                                                          The SAS System
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52         FOOTNOTE1 "Generated by SAS (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%QSYSFUNC(TIME(),
52       !  NLTIMAP25.))";
53         PROC AUTOREG DATA = WORK.SORTTempTableSorted
54               PLOTS(ONLY)=NONE
55         ;
56          MODEL Returns = /
57          METHOD=YW
58          MAXITER=50
59          NLAG=5
60                DW=5
61          ;
62         RUN;

NOTE: There were 3021 observations read from the data set WORK.GS12Y.
NOTE: PROCEDURE AUTOREG used (Total process time):
      real time           1.91 seconds
      cpu time            0.79 seconds


62       !     QUIT;TITLE;
63         /* ---------------------------------------------------------------------
64            End of task code
65            ---------------------------------------------------------------------
*/
66         RUN; QUIT;
67         %_eg_conditional_dropds(WORK.SORTTempTableSorted);
NOTE: View WORK.SORTTEMPTABLESORTED has been dropped.
NOTE: PROCEDURE SQL used (Total process time):
      real time           0.01 seconds
      cpu time            0.00 seconds


68         TITLE; FOOTNOTE;
69         ODS GRAPHICS OFF;
70
71
72         %LET _CLIENTTASKLABEL=;
73         %LET _CLIENTPROCESSFLOWNAME=;
74         %LET _CLIENTPROJECTPATH=;
75         %LET _CLIENTPROJECTPATHHOST=;
76         %LET _CLIENTPROJECTNAME=;
77
78         ;*';*";*/;quit;run;
79         ODS _ALL_ CLOSE;
80
81
82         QUIT; RUN;
83
```

```
/* ---------------------------------------------------------------------
   Code generated by SAS Task

   Generated on: Sunday, October 4, 2020 at 11:44:22 AM
   By task: Regression Analysis with Autoregressive Errors 1

   Input Data: Local:WORK.GS12Y
   Server:  Local
   ---------------------------------------------------------------------
*/
ODS GRAPHICS ON;

%_eg_conditional_dropds(WORK.SORTTempTableSorted);
/* ---------------------------------------------------------------------
   Sort data set Local:WORK.GS12Y
   ---------------------------------------------------------------------
*/

PROC SQL;
     CREATE VIEW WORK.SORTTempTableSorted AS
          SELECT T.Returns
     FROM WORK.GS12Y as T
;
QUIT;
TITLE;
TITLE1 "Regression Analysis with Autoregressive Errors";
FOOTNOTE;
FOOTNOTE1 "Generated by SAS (&_SASSERVERNAME, &SYSSCPL) on
%TRIM(%QSYSFUNC(DATE(), NLDATE20.)) at %TRIM(%QSYSFUNC(TIME(),
NLTIMAP25.))";
PROC AUTOREG DATA = WORK.SORTTempTableSorted
          PLOTS(ONLY)=NONE
;
     MODEL Returns = /
     METHOD=YW
     MAXITER=50
     NLAG=5
          DW=5
     ;
RUN;QUIT;TITLE;
/* ---------------------------------------------------------------------
   End of task code
   ---------------------------------------------------------------------
*/
RUN; QUIT;
%_eg_conditional_dropds(WORK.SORTTempTableSorted);
TITLE; FOOTNOTE;
ODS GRAPHICS OFF;
```