```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
72
73         /******************** sales.sas ***************************/
74         title 'Regression on Sales Data';
75
76         /* Read data directly from Excel spreadsheet */
77         proc import datafile="/folders/myfolders/sasuser.v94/sales.data.xlsx"
78                     out=sales dbms=xlsx replace;
79                     getnames=yes;
80         /* Input data file is mcars4.xlsx
81            Ouput data set is called cars
82            dbms=xlsx      The input file is an Excel spreadsheet.
83                           Necessary to read an Excel spreadsheet directly under unix/linux
84                           Works in PC environment too except for Excel 4.0 spreadsheets
85                           If there are multiple sheets, use sheet="sheet1" or something.
86            replace      If the data set cars already exists, replace it.
87            getnames=yes   Use column names as variable names.                  */
88

NOTE: The import data set has 36 observations and 4 variables.
NOTE: WORK.SALES data set was successfully created.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           0.01 seconds
      cpu time            0.01 seconds

89         proc print;

90

NOTE: There were 36 observations read from the data set WORK.SALES.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.09 seconds
      cpu time            0.09 seconds

91         data sales;
92              set sales;
93              label Rep  = 'Representative'
94                    Software = 'Software Package'
95                    SalesLastQuarter     = 'sales last quarter with the old software'
96                    SalesThisQuarter   = 'sales this quarter with the new software packages';
97
98              if Software = '1' then c1=1;  else c1=0;
99              if Software = '2' then c2=1;  else c2=0;
100
101             cL1 = c1*SalesLastQuarter ; cL2 = c2*SalesLastQuarter ;
102        cT1 = c1*SalesThisQuarter ; cT2 = c2*SalesThisQuarter ;
103

NOTE: Character values have been converted to numeric values at the places given by: (Line):(Column).
      98:20   99:20
NOTE: There were 36 observations read from the data set WORK.SALES.
NOTE: The data set WORK.SALES has 36 observations and 10 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      cpu time            0.00 seconds

104        proc freq;

105             title2 'Check dummy variables';
106             tables (c1 c2)*software / norow nocol nopercent;
107

NOTE: There were 36 observations read from the data set WORK.SALES.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.08 seconds
      cpu time            0.08 seconds

108        proc reg plots = none;

109             title2 'Regression with Software package';
110             model SalesThisQuarter = c1 c2;
111             Soft1vsSoft2: test c1=c2;
```

```
112

NOTE: PROCEDURE REG used (Total process time):
      real time           0.19 seconds
      cpu time            0.18 seconds

113         proc reg plots = none;

114              title2 'Regression with Software package';
115              model SalesThisQuarter = c1 c2 SalesLastQuarter;
116              softwareUsefulness: test c1=c2=0;
117              Soft1vsSoft2: test c1=c2;
118

NOTE: PROCEDURE REG used (Total process time):
      real time           0.12 seconds
      cpu time            0.13 seconds

119         proc reg plots = none;

120              title2 'Regression with Software package and interaction';
121              model SalesThisQuarter = c1 c2 SalesLastQuarter cL1 cL2;
122              Soft1vsSoft2: test c1=c2;
123              Interaction: test cL1=cL2;
124
125
126
127
128
129
130         OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
143
```