```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
NOTE: ODS statements in the SAS Studio environment may disable some output features.
69
70         ********************************************************************************
71         * Analysis Script
72         * Murphy John
73         * 2025-04-21
74         * This script performs the main analyses of this project.
75         ********************************************************************************;
76
77         title "Setup";
78
79         ** footnote;
80         footnote "Analysis script run on &SYSDATE at &SYSTIME.";
81
82         ** establish library;
83         libname mylib "/home/u63984496/BIOS7400/final-project";
NOTE: Libref MYLIB was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/u63984496/BIOS7400/final-project
84
85         ** set graphics ods;
86         ods graphics on / width=8in height=4in;
87         ********************************************************************************;
88
89         title "Exploratory analysis";
90
91         * plot the outcome of interest, avgprice;
92         ** sort data by type, date, and region;
93         proc sort data=mylib.dat;
94             by type date region;
95         run;

NOTE: There were 546 observations read from the data set MYLIB.DAT.
NOTE: The data set MYLIB.DAT has 546 observations and 18 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.01 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              929.31k
      OS Memory           29868.00k
      Timestamp           04/30/2025 05:45:57 PM
      Step Count                        318  Switch Count  1
      Page Faults                       0
      Page Reclaims                     113
      Page Swaps                        0
      Voluntary Context Switches        37
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


96
97         ** plot price over time by type stratified by region;
98         proc sgpanel data=mylib.dat;
99             panelby type;
100            series x = date y = avgprice / group = region;
101        run;

NOTE: PROCEDURE SGPANEL used (Total process time):
      real time           0.23 seconds
      user cpu time       0.09 seconds
      system cpu time     0.01 seconds
      memory              12805.35k
      OS Memory           39344.00k
      Timestamp           04/30/2025 05:45:57 PM
      Step Count                        319  Switch Count  9
      Page Faults                       0
      Page Reclaims                     2608
      Page Swaps                        0
      Voluntary Context Switches        3497
      Involuntary Context Switches      7
      Block Input Operations            0
      Block Output Operations           1656

NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
```

```
NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
NOTE: The column format YYMMDD10 is replaced by an auto-generated format on the axis.
NOTE: There were 546 observations read from the data set MYLIB.DAT.

102
103         ** plot price by pres_party and type stratified by region;
104         proc sgpanel data=mylib.dat;
105         panelby region type;
106             hbox avgprice / group = pres_party;
107         run;

NOTE: PROCEDURE SGPANEL used (Total process time):
      real time           0.83 seconds
      user cpu time       0.30 seconds
      system cpu time     0.10 seconds
      memory              3461.84k
      OS Memory           38068.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        320  Switch Count  97
      Page Faults                       0
      Page Reclaims                     3353
      Page Swaps                        0
      Voluntary Context Switches        26640
      Involuntary Context Switches      39
      Block Input Operations            0
      Block Output Operations           7048

NOTE: There were 546 observations read from the data set MYLIB.DAT.

108
109         ** plot price by temp and type stratified by region;
110         proc sgpanel data=mylib.dat;
111         panelby type;
112             scatter x = temp y = avgprice / group = region;
113         run;

NOTE: PROCEDURE SGPANEL used (Total process time):
      real time           0.14 seconds
      user cpu time       0.05 seconds
      system cpu time     0.02 seconds
      memory              3134.40k
      OS Memory           38068.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        321  Switch Count  10
      Page Faults                       0
      Page Reclaims                     522
      Page Swaps                        0
      Voluntary Context Switches        3476
      Involuntary Context Switches      4
      Block Input Operations            0
      Block Output Operations           1160

NOTE: There were 546 observations read from the data set MYLIB.DAT.

114         ********************************************************************************;
115
116         * univariable analysis;
117         ** get means for each type;
118         proc univariate data=mylib.dat plots;
119         var avgprice;
120         class type;
121         run;

NOTE: PROCEDURE UNIVARIATE used (Total process time):
      real time           0.20 seconds
      user cpu time       0.13 seconds
      system cpu time     0.00 seconds
      memory              4176.59k
      OS Memory           37900.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        322  Switch Count  0
      Page Faults                       0
      Page Reclaims                     614
      Page Swaps                        0
      Voluntary Context Switches        395
      Involuntary Context Switches      6
      Block Input Operations            0
      Block Output Operations           648


122
```

```
123         * bivariable analysis;
124         ** check correlations of numerical variables;
125         proc corr pearson data=mylib.dat;
126         var temp avgprice;
127         by type;
128         run;

NOTE: PROCEDURE CORR used (Total process time):
      real time           0.04 seconds
      user cpu time       0.04 seconds
      system cpu time     0.00 seconds
      memory              1304.62k
      OS Memory           37288.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        323  Switch Count  0
      Page Faults                       0
      Page Reclaims                     102
      Page Swaps                        0
      Voluntary Context Switches        7
      Involuntary Context Switches      2
      Block Input Operations            0
      Block Output Operations           16


129
130         ** create macro to check means of categorical variables;
131         %macro means(var);
132         proc means data = mylib.dat;
133         var avgprice;
134         class &var;
135         by type;
136         run;
137         %mend means;
138
139         * run;
140         %means(month_num);

NOTE: There were 546 observations read from the data set MYLIB.DAT.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.03 seconds
      user cpu time       0.03 seconds
      system cpu time     0.00 seconds
      memory              2088.90k
      OS Memory           38316.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        324  Switch Count  2
      Page Faults                       0
      Page Reclaims                     208
      Page Swaps                        0
      Voluntary Context Switches        17
      Involuntary Context Switches      2
      Block Input Operations            0
      Block Output Operations           0


141         %means(year);

NOTE: There were 546 observations read from the data set MYLIB.DAT.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.02 seconds
      user cpu time       0.03 seconds
      system cpu time     0.00 seconds
      memory              2171.03k
      OS Memory           38316.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        325  Switch Count  2
      Page Faults                       0
      Page Reclaims                     198
      Page Swaps                        0
      Voluntary Context Switches        15
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           16


142         %means(region);

NOTE: There were 546 observations read from the data set MYLIB.DAT.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.03 seconds
      user cpu time       0.03 seconds
```

```
      system cpu time     0.00 seconds
      memory              2060.21k
      OS Memory           38316.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        326  Switch Count  2
      Page Faults                       0
      Page Reclaims                     180
      Page Swaps                        0
      Voluntary Context Switches        15
      Involuntary Context Switches      3
      Block Input Operations            0
      Block Output Operations           16


143         %means(pres_party);

NOTE: There were 546 observations read from the data set MYLIB.DAT.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.02 seconds
      user cpu time       0.02 seconds
      system cpu time     0.00 seconds
      memory              2033.75k
      OS Memory           38316.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        327  Switch Count  2
      Page Faults                       0
      Page Reclaims                     180
      Page Swaps                        0
      Voluntary Context Switches        14
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           0


144         ********************************************************************************;
145
146         title "Regression Model fits";
147
148         * create train and test data;
149         ** randomly select 80 percent of the data for the training and reserve the remainder for testing;
150         proc surveyselect data=mylib.dat
151             out=dat_select
152             samprate=0.8
153             outall
154             seed=333;
155         run;

NOTE: The data set WORK.DAT_SELECT has 546 observations and 19 variables.
NOTE: PROCEDURE SURVEYSELECT used (Total process time):
      real time           0.01 seconds
      user cpu time       0.01 seconds
      system cpu time     0.00 seconds
      memory              935.90k
      OS Memory           37548.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        328  Switch Count  2
      Page Faults                       0
      Page Reclaims                     91
      Page Swaps                        0
      Voluntary Context Switches        21
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           264


156
157         ** create seperate data sets;
158         data dat_train dat_test;
159             set dat_select;
160             if selected then output dat_train;
161             else output dat_test;
162         run;

NOTE: There were 546 observations read from the data set WORK.DAT_SELECT.
NOTE: The data set WORK.DAT_TRAIN has 437 observations and 19 variables.
NOTE: The data set WORK.DAT_TEST has 109 observations and 19 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              1342.18k
```

```
      OS Memory           37808.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        329  Switch Count  4
      Page Faults                       0
      Page Reclaims                     157
      Page Swaps                        0
      Voluntary Context Switches        28
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           528


163
164
165         * simple linear regression;
166         ** avgprice by type, only;
167         proc glm data=dat_train plots=all;
168         class type (ref='conventional');
169         model avgprice = type;
170         run;

171
172         *** rmse = 0.251153, rsq = 0.485679;
173
174         * bivariable regression with interaction;
175         ** model avgprice by type, covariate, and interaction;
176         ** covariates are month_num, year, temp, region, pres_party;
177
178         * write macro to fit the numerical covariate model;
179         %macro bivariable_num(covariate);
180         proc glm data=dat_train plots=all;
181                 class type (ref='conventional');
182                 model avgprice = type &covariate type*&covariate;
183             run;
184
185         %mend bivariable_num;
186
187         * write macro to fit the categorical covariate models;
188         %macro bivariable_cat(covariate);
189         proc glm data=dat_train plots=all;
190                 class type (ref='conventional') &covariate;
191                 model avgprice = type &covariate type*&covariate;
192             run;
193
194         %mend bivariable_cat;
195
196         * run;
197
198         %bivariable_num(temp);

NOTE: PROCEDURE GLM used (Total process time):
      real time           0.27 seconds
      user cpu time       0.13 seconds
      system cpu time     0.03 seconds
      memory              10373.12k
      OS Memory           44764.00k
      Timestamp           04/30/2025 05:45:58 PM
      Step Count                        330  Switch Count  23
      Page Faults                       0
      Page Reclaims                     11934
      Page Swaps                        0
      Voluntary Context Switches        765
      Involuntary Context Switches      12
      Block Input Operations            0
      Block Output Operations           1488


199         *** rmse = 0.234790, rsq = 0.552579;
200
201         %bivariable_cat(region);

NOTE: PROCEDURE GLM used (Total process time):
      real time           0.34 seconds
      user cpu time       0.17 seconds
      system cpu time     0.03 seconds
      memory              10281.09k
      OS Memory           44764.00k
      Timestamp           04/30/2025 05:45:59 PM
      Step Count                        331  Switch Count  23
      Page Faults                       0
```

```
      Page Reclaims                     11801
      Page Swaps                        0
      Voluntary Context Switches        2138
      Involuntary Context Switches      8
      Block Input Operations            0
      Block Output Operations           2480



202         *** rmse = 0.202991, rsq = 0.673291;
203
204         %bivariable_cat(pres_party);

NOTE: PROCEDURE GLM used (Total process time):
      real time           0.32 seconds
      user cpu time       0.15 seconds
      system cpu time     0.04 seconds
      memory              10232.43k
      OS Memory           44764.00k
      Timestamp           04/30/2025 05:45:59 PM
      Step Count                        332  Switch Count  23
      Page Faults                       0
      Page Reclaims                     11590
      Page Swaps                        0
      Voluntary Context Switches        3427
      Involuntary Context Switches      9
      Block Input Operations            0
      Block Output Operations           1704



205         *** rmse = 0.244407, rsq = 0.515176;
206
207         %bivariable_cat(year);

NOTE: PROCEDURE GLM used (Total process time):
      real time           0.31 seconds
      user cpu time       0.14 seconds
      system cpu time     0.04 seconds
      memory              10270.43k
      OS Memory           44764.00k
      Timestamp           04/30/2025 05:45:59 PM
      Step Count                        333  Switch Count  23
      Page Faults                       0
      Page Reclaims                     11602
      Page Swaps                        0
      Voluntary Context Switches        3336
      Involuntary Context Switches      9
      Block Input Operations            0
      Block Output Operations           1536



208         *** rmse = 0.239643, rsq = 0.538200;
209
210         %bivariable_cat(month_num);

NOTE: PROCEDURE GLM used (Total process time):
      real time           0.31 seconds
      user cpu time       0.14 seconds
      system cpu time     0.04 seconds
      memory              10145.96k
      OS Memory           44252.00k
      Timestamp           04/30/2025 05:46:00 PM
      Step Count                        334  Switch Count  23
      Page Faults                       0
      Page Reclaims                     11642
      Page Swaps                        0
      Voluntary Context Switches        3375
      Involuntary Context Switches      6
      Block Input Operations            0
      Block Output Operations           1568



211         *** rmse = 0.231129, rsq = 0.586450;
212
213         * create table of metrics by hand;

NOTE: PROCEDURE GLM used (Total process time):
      real time           0.32 seconds
```

```
      user cpu time       0.14 seconds
      system cpu time     0.04 seconds
      memory              10289.00k
      OS Memory           44252.00k
      Timestamp           04/30/2025 05:46:00 PM
      Step Count                        335  Switch Count  23
      Page Faults                       0
      Page Reclaims                     11730
      Page Swaps                        0
      Voluntary Context Switches        3512
      Involuntary Context Switches      11
      Block Input Operations            0
      Block Output Operations           1768


214         data stats;
215             length Covariate $30;
216             infile datalines dsd truncover;
217             input Covariate :$30. R_Square RMSE;
218             datalines;

NOTE: The data set WORK.STATS has 6 observations and 3 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              784.78k
      OS Memory           38056.00k
      Timestamp           04/30/2025 05:46:00 PM
      Step Count                        336  Switch Count  2
      Page Faults                       0
      Page Reclaims                     85
      Page Swaps                        0
      Voluntary Context Switches        11
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           264


225         ;
226         run;
227
228         proc print data=stats noobs;
229         var Covariate RMSE R_Square;
230         run;

NOTE: There were 6 observations read from the data set WORK.STATS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      user cpu time       0.01 seconds
      system cpu time     0.00 seconds
      memory              610.90k
      OS Memory           38056.00k
      Timestamp           04/30/2025 05:46:00 PM
      Step Count                        337  Switch Count  0
      Page Faults                       0
      Page Reclaims                     62
      Page Swaps                        0
      Voluntary Context Switches        0
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


231
232         *** All three bivariable models improve the fit above the univariable model as measued by the rmse and r-squared.
233         *** The bivariable model with region has the lowest rmse and highest r-squared.;
234
235         * full model;
236         ** avgprice by type, temp, region, pres_party and interactions;
237         proc glm data=dat_train plots=all;
238                 class pres_party type (ref='conventional') region month_num year;
239                 model avgprice = type temp region pres_party month_num year
240                   type*temp type*region type*pres_party type*month_num type*year;
241         run;

242         *** rmse = 0.145137, rsq = 0.844828;
243
244         * reduced model;
245         ** the interaction between type and temp, month_num, and pres_party have small Type III SS and large p-values.
246         ** Reduce the model by removing these terms.;
```

```
NOTE: PROCEDURE GLM used (Total process time):
      real time           0.28 seconds
      user cpu time       0.14 seconds
      system cpu time     0.04 seconds
      memory              10195.18k
      OS Memory           45020.00k
      Timestamp           04/30/2025 05:46:00 PM
      Step Count                        338  Switch Count  23
      Page Faults                       0
      Page Reclaims                     11651
      Page Swaps                        0
      Voluntary Context Switches        601
      Involuntary Context Switches      7
      Block Input Operations            0
      Block Output Operations           1784


247        proc glm data=dat_train plots=all alpha=0.05;
248                class type (ref='conventional') region pres_party month_num year;
249                model avgprice = type temp region pres_party month_num year
250                  type*region;
251                store out=final_model;
252        run;

253        quit;

NOTE: The GLM procedure generated the model item store WORK.FINAL_MODEL.
NOTE: PROCEDURE GLM used (Total process time):
      real time           0.28 seconds
      user cpu time       0.14 seconds
      system cpu time     0.03 seconds
      memory              10612.03k
      OS Memory           45276.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        339  Switch Count  23
      Page Faults                       0
      Page Reclaims                     11631
      Page Swaps                        0
      Voluntary Context Switches        607
      Involuntary Context Switches      7
      Block Input Operations            0
      Block Output Operations           2032


254        *** rmse = 0.152099, rsq = 0.823078;
255
256        *** The reduced model is very similar in terms of fit to the full model but does not include unnessecary interaction
256      ! terms.
257        *** Select this as the final model.;
258        ********************************************************************************;
259
260        title 'Model Evaluation';
261        * use the final model to generate predictions on the test data;
262        proc plm restore=final_model;
263            score data=dat_test out=predictions predicted;
264        run;

NOTE: The data set WORK.PREDICTIONS has 109 observations and 20 variables.
NOTE: PROCEDURE PLM used (Total process time):
      real time           0.01 seconds
      user cpu time       0.02 seconds
      system cpu time     0.00 seconds
      memory              1117.46k
      OS Memory           38316.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        340  Switch Count  2
      Page Faults                       0
      Page Reclaims                     143
      Page Swaps                        0
      Voluntary Context Switches        20
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           272


265
266        * compute rmse and r-squared;
267        ** get residuals;
268        data eval;
269            set predictions;
```

```
270           resid = avgprice - predicted;
271           sq_resid = resid**2;
272       run;

NOTE: There were 109 observations read from the data set WORK.PREDICTIONS.
NOTE: The data set WORK.EVAL has 109 observations and 22 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              1088.12k
      OS Memory           38316.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        341  Switch Count  2
      Page Faults                       0
      Page Reclaims                     112
      Page Swaps                        0
      Voluntary Context Switches        19
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           264


273
274       * compute mean;
275       proc means data=eval noprint;
276           var avgprice predicted sq_resid;
277           output out=metrics
278               mean(avgprice)=mean_y
279               sum(sq_resid)=ss_res
280               n=samples;
281       run;

NOTE: There were 109 observations read from the data set WORK.EVAL.
NOTE: The data set WORK.METRICS has 1 observations and 5 variables.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.01 seconds
      memory              6640.31k
      OS Memory           43712.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        342  Switch Count  3
      Page Faults                       0
      Page Reclaims                     1454
      Page Swaps                        0
      Voluntary Context Switches        34
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           272


282
283       * compute metrics;
284       data results;
285           set metrics;
286           ss_total = 0;
287           do i = 1 to samples;
288               set eval point=i nobs=n;
289               ss_total + (avgprice - mean_y)**2;
290           end;
291           rmse = sqrt(ss_res / samples);
292           rsq = 1 - (ss_res / ss_total);
293           keep rmse rsq;
294       run;

NOTE: There were 1 observations read from the data set WORK.METRICS.
NOTE: The data set WORK.RESULTS has 1 observations and 2 variables.
NOTE: DATA statement used (Total process time):
      real time           0.00 seconds
      user cpu time       0.00 seconds
      system cpu time     0.00 seconds
      memory              1438.50k
      OS Memory           38320.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        343  Switch Count  3
      Page Faults                       0
      Page Reclaims                     153
      Page Swaps                        0
      Voluntary Context Switches        19
      Involuntary Context Switches      1
```

```
      Block Input Operations            0
      Block Output Operations           264


295
296         proc print data=results;
297             title "RMSE and R-squared on Test Data";
298         run;

NOTE: There were 1 observations read from the data set WORK.RESULTS.
NOTE: PROCEDURE PRINT used (Total process time):
      real time           0.00 seconds
      user cpu time       0.01 seconds
      system cpu time     0.00 seconds
      memory              719.40k
      OS Memory           37800.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        344  Switch Count  1
      Page Faults                       0
      Page Reclaims                     62
      Page Swaps                        0
      Voluntary Context Switches        11
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           0


299
300         * residuals vs fitted plot;
301         proc sgplot data=eval;
302             scatter x=predicted y=resid / markerattrs=(symbol=circlefilled color=black);
303             refline 0 / axis=y lineattrs=(color=red pattern=shortdash);
304             xaxis label="Fitted Values";
305             yaxis label="Residuals";
306             title "Residuals vs. Fitted Values";
307         run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.07 seconds
      user cpu time       0.03 seconds
      system cpu time     0.00 seconds
      memory              1781.59k
      OS Memory           38668.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        345  Switch Count  2
      Page Faults                       0
      Page Reclaims                     279
      Page Swaps                        0
      Voluntary Context Switches        145
      Involuntary Context Switches      3
      Block Input Operations            0
      Block Output Operations           384

NOTE: There were 109 observations read from the data set WORK.EVAL.

308
309         * predicted vs observed plot;
310         proc sgplot data=predictions;
311             scatter x=predicted y=avgprice / markerattrs=(symbol=circlefilled color=black);
312             lineparm x=0 y=0 slope=1 / lineattrs=(color=red pattern=shortdash);
313             xaxis label="Predicted Values";
314             yaxis label="Observed Values";
315             title "Predicted vs. Observed Values";
316         run;

NOTE: PROCEDURE SGPLOT used (Total process time):
      real time           0.07 seconds
      user cpu time       0.02 seconds
      system cpu time     0.00 seconds
      memory              2169.40k
      OS Memory           38668.00k
      Timestamp           04/30/2025 05:46:01 PM
      Step Count                        346  Switch Count  2
      Page Faults                       0
      Page Reclaims                     280
      Page Swaps                        0
      Voluntary Context Switches        143
      Involuntary Context Switches      1
      Block Input Operations            0
      Block Output Operations           416
```

```
NOTE: There were 109 observations read from the data set WORK.PREDICTIONS.

317
318         * END OF SCRIPT;
319
320         OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
330
```