```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69         ************************************************************
70         *  Study: Impact of BMI on Diabetes and Cardiovascular Disease Risk
71         *  Program:           midterm.sas
72         *  Created by:        Emily.Chiang
73         *  Date Created:
74         *  Description:       Create Table 1 and 2
75         *
76         *
77         *  Input files:       file_name
78         *  Output files:      tfl.table_2, table_1.rtf
79         *
80         *  Other Comments:    None
81         *
82         *
83         ************************************************************
84         *  Modification History:
85         *
86         *  Modification Number:  x
87         *  Modified by:          FIRSTNAME.LASTNAME
88         *  Date Modified:        DDMMMYYYY
89         *  Reason Modified:      describe changes made
90         *
91         ************************************************************
92         * Copyright  .
93         * All rights reserved.
94         ************************************************************;
95
96
97         ************************************************************;
98         ** APPLY CENTRAL CONFIGURATIONS                        **;
99         ************************************************************;
100
101        libname kaggle "/home/u64041744/Midterm/mt_data";
NOTE: Libref KAGGLE was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/u64041744/Midterm/mt_data
102        run;
103        PROC IMPORT OUT= kaggle.diabetes
104        DATAFILE= "/home/u64041744/Midterm/mt_data/diabetes_binary_5050split_health_indicators_BRFSS2015.csv"
105        DBMS=CSV REPLACE;
106        GETNAMES=YES;
107        DATAROW=2;
108        RUN;

NOTE: Unable to open parameter catalog: SASUSER.PARMS.PARMS.SLIST in update mode. Temporary parameter values will be saved to
WORK.PARMS.PARMS.SLIST.
109         /*---------------------------------------------------------------------
110         *   PRODUCT:   SAS
111         *   VERSION:   9.4
112         *   CREATOR:   External File Interface
113         *   DATE:      01NOV24
114         *   DESC:      Generated SAS Datastep Code
115         *   TEMPLATE SOURCE:  (None Specified.)
116         ---------------------------------------------------------------------*/
117            data KAGGLE.DIABETES    ;
118            %let _EFIERR_ = 0; /* set the ERROR detection macro variable */
119            infile '/home/u64041744/Midterm/mt_data/diabetes_binary_5050split_health_indicators_BRFSS2015.csv' delimiter = ','
119      ! MISSOVER DSD lrecl=32767 firstobs=2 ;
120               informat Diabetes_binary best32. ;
121               informat HighBP best32. ;
122               informat HighChol best32. ;
123               informat CholCheck best32. ;
124               informat BMI best32. ;
125               informat Smoker best32. ;
126               informat Stroke best32. ;
127               informat HeartDiseaseorAttack best32. ;
128               informat PhysActivity best32. ;
129               informat Fruits best32. ;
130               informat Veggies best32. ;
131               informat HvyAlcoholConsump best32. ;
132               informat AnyHealthcare best32. ;
133               informat NoDocbcCost best32. ;
134               informat GenHlth best32. ;
135               informat MentHlth best32. ;
136               informat PhysHlth best32. ;
137               informat DiffWalk best32. ;
138               informat Sex best32. ;
139               informat Age best32. ;
140               informat Education best32. ;
```

```
141              informat Income best32. ;
142              format Diabetes_binary best12. ;
143              format HighBP best12. ;
144              format HighChol best12. ;
145              format CholCheck best12. ;
146              format BMI best12. ;
147              format Smoker best12. ;
148              format Stroke best12. ;
149              format HeartDiseaseorAttack best12. ;
150              format PhysActivity best12. ;
151              format Fruits best12. ;
152              format Veggies best12. ;
153              format HvyAlcoholConsump best12. ;
154              format AnyHealthcare best12. ;
155              format NoDocbcCost best12. ;
156              format GenHlth best12. ;
157              format MentHlth best12. ;
158              format PhysHlth best12. ;
159              format DiffWalk best12. ;
160              format Sex best12. ;
161              format Age best12. ;
162              format Education best12. ;
163              format Income best12. ;
164           input
165                       Diabetes_binary
166                       HighBP
167                       HighChol
168                       CholCheck
169                       BMI
170                       Smoker
171                       Stroke
172                       HeartDiseaseorAttack
173                       PhysActivity
174                       Fruits
175                       Veggies
176                       HvyAlcoholConsump
177                       AnyHealthcare
178                       NoDocbcCost
179                       GenHlth
180                       MentHlth
181                       PhysHlth
182                       DiffWalk
183                       Sex
184                       Age
185                       Education
186                       Income
187           ;
188           if _ERROR_ then call symputx('_EFIERR_',1);  /* set ERROR detection macro variable */
189           run;

NOTE: The infile '/home/u64041744/Midterm/mt_data/diabetes_binary_5050split_health_indicators_BRFSS2015.csv' is:
      Filename=/home/u64041744/Midterm/mt_data/diabetes_binary_5050split_health_indicators_BRFSS2015.csv,
      Owner Name=u64041744,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=22Oct2024:23:39:35,
      File Size (bytes)=6347570

NOTE: 70692 records were read from the infile
      '/home/u64041744/Midterm/mt_data/diabetes_binary_5050split_health_indicators_BRFSS2015.csv'.
      The minimum record length was 88.
      The maximum record length was 91.
NOTE: The data set KAGGLE.DIABETES has 70692 observations and 22 variables.
NOTE: DATA statement used (Total process time):
      real time           0.12 seconds
      user cpu time       0.09 seconds
      system cpu time     0.01 seconds
      memory              10590.81k
      OS Memory           36384.00k
      Timestamp           11/01/2024 06:30:06 PM
      Step Count                        81  Switch Count  1
      Page Faults                       0
      Page Reclaims                     263
      Page Swaps                        0
      Voluntary Context Switches        492
      Involuntary Context Switches      3
      Block Input Operations            0
      Block Output Operations           24592


70692 rows created in KAGGLE.DIABETES from
/home/u64041744/Midterm/mt_data/diabetes_binary_5050split_health_indicators_BRFSS2015.csv.
```

```
NOTE: KAGGLE.DIABETES data set was successfully created.
NOTE: The data set KAGGLE.DIABETES has 70692 observations and 22 variables.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           0.19 seconds
      user cpu time       0.13 seconds
      system cpu time     0.03 seconds
      memory              10603.53k
      OS Memory           36900.00k
      Timestamp           11/01/2024 06:30:06 PM
      Step Count                        81  Switch Count  9
      Page Faults                       0
      Page Reclaims                     2754
      Page Swaps                        0
      Voluntary Context Switches        587
      Involuntary Context Switches      10
      Block Input Operations            0
      Block Output Operations           24648


190
191        libname kaggle "/home/u64041744/Midterm/mt_data";
NOTE: Libref KAGGLE was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/u64041744/Midterm/mt_data
192        run;
193        PROC IMPORT OUT= kaggle.heartdisease
194        DATAFILE= "/home/u64041744/Midterm/mt_data/heart_disease_health_indicators_BRFSS2015.csv"
195        DBMS=CSV REPLACE;
196        GETNAMES=YES;
197        DATAROW=2;
198        RUN;

NOTE: Unable to open parameter catalog: SASUSER.PARMS.PARMS.SLIST in update mode. Temporary parameter values will be saved to
WORK.PARMS.PARMS.SLIST.
199         /*---------------------------------------------------------------------*
200         *   PRODUCT:   SAS
201         *   VERSION:   9.4
202         *   CREATOR:   External File Interface
203         *   DATE:      01NOV24
204         *   DESC:      Generated SAS Datastep Code
205         *   TEMPLATE SOURCE:  (None Specified.)
206         *---------------------------------------------------------------------*/
207            data KAGGLE.HEARTDISEASE    ;
208            %let _EFIERR_ = 0; /* set the ERROR detection macro variable */
209            infile '/home/u64041744/Midterm/mt_data/heart_disease_health_indicators_BRFSS2015.csv' delimiter = ',' MISSOVER DSD
209      ! lrecl=32767 firstobs=2 ;
210               informat HeartDiseaseorAttack best32. ;
211               informat HighBP best32. ;
212               informat HighChol best32. ;
213               informat CholCheck best32. ;
214               informat BMI best32. ;
215               informat Smoker best32. ;
216               informat Stroke best32. ;
217               informat Diabetes best32. ;
218               informat PhysActivity best32. ;
219               informat Fruits best32. ;
220               informat Veggies best32. ;
221               informat HvyAlcoholConsump best32. ;
222               informat AnyHealthcare best32. ;
223               informat NoDocbcCost best32. ;
224               informat GenHlth best32. ;
225               informat MentHlth best32. ;
226               informat PhysHlth best32. ;
227               informat DiffWalk best32. ;
228               informat Sex best32. ;
229               informat Age best32. ;
230               informat Education best32. ;
231               informat Income best32. ;
232               format HeartDiseaseorAttack best12. ;
233               format HighBP best12. ;
234               format HighChol best12. ;
235               format CholCheck best12. ;
236               format BMI best12. ;
237               format Smoker best12. ;
238               format Stroke best12. ;
239               format Diabetes best12. ;
240               format PhysActivity best12. ;
241               format Fruits best12. ;
242               format Veggies best12. ;
243               format HvyAlcoholConsump best12. ;
244               format AnyHealthcare best12. ;
245               format NoDocbcCost best12. ;
```

```
246              format GenHlth best12. ;
247              format MentHlth best12. ;
248              format PhysHlth best12. ;
249              format DiffWalk best12. ;
250              format Sex best12. ;
251              format Age best12. ;
252              format Education best12. ;
253              format Income best12. ;
254           input
255                       HeartDiseaseorAttack
256                       HighBP
257                       HighChol
258                       CholCheck
259                       BMI
260                       Smoker
261                       Stroke
262                       Diabetes
263                       PhysActivity
264                       Fruits
265                       Veggies
266                       HvyAlcoholConsump
267                       AnyHealthcare
268                       NoDocbcCost
269                       GenHlth
270                       MentHlth
271                       PhysHlth
272                       DiffWalk
273                       Sex
274                       Age
275                       Education
276                       Income
277           ;
278           if _ERROR_ then call symputx('_EFIERR_',1);  /* set ERROR detection macro variable */
279           run;

NOTE: The infile '/home/u64041744/Midterm/mt_data/heart_disease_health_indicators_BRFSS2015.csv' is:
      Filename=/home/u64041744/Midterm/mt_data/heart_disease_health_indicators_BRFSS2015.csv,
      Owner Name=u64041744,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=09Oct2024:17:39:16,
      File Size (bytes)=22738147

NOTE: 253680 records were read from the infile '/home/u64041744/Midterm/mt_data/heart_disease_health_indicators_BRFSS2015.csv'.
      The minimum record length was 88.
      The maximum record length was 91.
NOTE: The data set KAGGLE.HEARTDISEASE has 253680 observations and 22 variables.
NOTE: DATA statement used (Total process time):
      real time           0.39 seconds
      user cpu time       0.30 seconds
      system cpu time     0.03 seconds
      memory              10598.96k
      OS Memory           36384.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                        82  Switch Count  1
      Page Faults                       0
      Page Reclaims                     269
      Page Swaps                        0
      Voluntary Context Switches        1270
      Involuntary Context Switches      11
      Block Input Operations            0
      Block Output Operations           87576


253680 rows created in KAGGLE.HEARTDISEASE from /home/u64041744/Midterm/mt_data/heart_disease_health_indicators_BRFSS2015.csv.



NOTE: KAGGLE.HEARTDISEASE data set was successfully created.
NOTE: The data set KAGGLE.HEARTDISEASE has 253680 observations and 22 variables.
NOTE: PROCEDURE IMPORT used (Total process time):
      real time           0.45 seconds
      user cpu time       0.34 seconds
      system cpu time     0.04 seconds
      memory              10598.96k
      OS Memory           36900.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                        82  Switch Count  9
      Page Faults                       0
      Page Reclaims                     1631
      Page Swaps                        0
      Voluntary Context Switches        1355
      Involuntary Context Switches      13
      Block Input Operations            0
```

```
      Block Output Operations          87592


280
281       libname kaggle "/home/u64041744/Midterm/mt_data";
NOTE: Libref KAGGLE was successfully assigned as follows:
      Engine:        V9
      Physical Name: /home/u64041744/Midterm/mt_data
282       proc sort data=kaggle.diabetes;
283       by Age;
284       run;

NOTE: There were 70692 observations read from the data set KAGGLE.DIABETES.
NOTE: The data set KAGGLE.DIABETES has 70692 observations and 22 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.08 seconds
      user cpu time       0.02 seconds
      system cpu time     0.02 seconds
      memory              17422.00k
      OS Memory           45988.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                       83  Switch Count  2
      Page Faults                      0
      Page Reclaims                    3774
      Page Swaps                       0
      Voluntary Context Switches       371
      Involuntary Context Switches     0
      Block Input Operations           0
      Block Output Operations          24584


285
286       proc sort data=kaggle.heartdisease;
287       by Age;
288       run;

NOTE: There were 253680 observations read from the data set KAGGLE.HEARTDISEASE.
NOTE: The data set KAGGLE.HEARTDISEASE has 253680 observations and 22 variables.
NOTE: PROCEDURE SORT used (Total process time):
      real time           0.23 seconds
      user cpu time       0.10 seconds
      system cpu time     0.08 seconds
      memory              53951.78k
      OS Memory           82508.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                       84  Switch Count  4
      Page Faults                      0
      Page Reclaims                    12754
      Page Swaps                       0
      Voluntary Context Switches       1285
      Involuntary Context Switches     10
      Block Input Operations           0
      Block Output Operations          87560


289
290       proc contents data=kaggle.diabetes;
291       run;

NOTE: PROCEDURE CONTENTS used (Total process time):
      real time           0.04 seconds
      user cpu time       0.04 seconds
      system cpu time     0.00 seconds
      memory              3103.46k
      OS Memory           31152.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                       85  Switch Count  0
      Page Faults                      0
      Page Reclaims                    283
      Page Swaps                       0
      Voluntary Context Switches       11
      Involuntary Context Switches     5
      Block Input Operations           0
      Block Output Operations          32


292
293       proc contents data=kaggle.heartdisease;
294       run;

NOTE: PROCEDURE CONTENTS used (Total process time):
      real time           0.07 seconds
      user cpu time       0.07 seconds
```

```
      system cpu time     0.01 seconds
      memory              2355.18k
      OS Memory           31152.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                        86  Switch Count  0
      Page Faults                       0
      Page Reclaims                     283
      Page Swaps                        0
      Voluntary Context Switches        10
      Involuntary Context Switches      3
      Block Input Operations            0
      Block Output Operations           24


295
296
297       data merge_data;
298       merge kaggle.heartdisease kaggle.diabetes;
299       by age;
300       run;

NOTE: MERGE statement has more than one data set with repeats of BY values.
NOTE: There were 253680 observations read from the data set KAGGLE.HEARTDISEASE.
NOTE: There were 70692 observations read from the data set KAGGLE.DIABETES.
NOTE: The data set WORK.MERGE_DATA has 253680 observations and 23 variables.
NOTE: DATA statement used (Total process time):
      real time           0.12 seconds
      user cpu time       0.05 seconds
      system cpu time     0.06 seconds
      memory              5379.53k
      OS Memory           34996.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                        87  Switch Count  9
      Page Faults                       0
      Page Reclaims                     892
      Page Swaps                        0
      Voluntary Context Switches        104
      Involuntary Context Switches      8
      Block Input Operations            0
      Block Output Operations           91400


301
302       data new_merge;
303           set merge_data;
304           BMI_categories = input(bmi,$15.);
305           n_age = input(age,$15.);
306           Diabetes_01 = put(Diabetes_binary,10.);
307           Heartdisease = put(heartdiseaseorattack,10.);
308           if bmi < 18.5 then BMI_categories = 'Underweight';
309           else if bmi <= 24.9 and bmi >= 18.5 then BMI_categories = 'Healthy';
310           else if bmi <= 29.9 and bmi >= 25 then BMI_categories = 'Overweight';
311           else if bmi <= 39.9 and bmi >= 30 then BMI_categories= 'Obese';
312           else if bmi >= 40 then BMI_categories = 'Severely obese';
313           if age = '1' then n_age = '18-24';
314           else if age = '2' then n_age = '25-29';
315           else if age = '3' then n_age = '30-34';
316           else if age = '4' then n_age = '35-39';
317           else if age = '5' then n_age = '40-44';
318           else if age = '6' then n_age = '45-49';
319           else if age = '7' then n_age = '50-54';
320           else if age = '8' then n_age = '55-59';
321           else if age = '9' then n_age = '60-64';
322           else if age = '10' then n_age = '65-69';
323           else if age = '11' then n_age = '70-74';
324           else if age = '12' then n_age = '75-79';
325           else if age = '13' then n_age = '80 or Older';
326           if Diabetes_binary = '0' then Diabetes_01 = 'No';
327           else if Diabetes_binary = '1' then Diabetes_01 = 'Yes';
328           if heartdiseaseorattack = '0' then heartdisease = 'No';
329           else if heartdiseaseorattack = '1' then heartdisease = 'Yes';
330       run;

NOTE: Numeric values have been converted to character values at the places given by: (Line):(Column).
      304:28   305:19
NOTE: Character values have been converted to numeric values at the places given by: (Line):(Column).
      313:14   314:19   315:19   316:19   317:19   318:19   319:19   320:19   321:19   322:19   323:19   324:19   325:19   326:26
      327:31   328:31   329:36
NOTE: There were 253680 observations read from the data set WORK.MERGE_DATA.
NOTE: The data set WORK.NEW_MERGE has 253680 observations and 27 variables.
NOTE: DATA statement used (Total process time):
      real time           0.17 seconds
      user cpu time       0.12 seconds
```

```
      system cpu time     0.06 seconds
      memory              3694.68k
      OS Memory           32944.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                        88  Switch Count  9
      Page Faults                       0
      Page Reclaims                     526
      Page Swaps                        0
      Voluntary Context Switches        36
      Involuntary Context Switches      6
      Block Input Operations            0
      Block Output Operations           119312


331
332
333         proc freq data=new_merge;
334         tables BMI_categories*Diabetes_01 / nocol norow;
335         tables BMI_categories*heartdisease/ nocol norow;
336         tables BMI_categories*diabetes_01*heartdisease/ nocol norow;
337         tables n_age*Diabetes_01/ nocol norow;
338         run;

NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.22 seconds
      user cpu time       0.21 seconds
      system cpu time     0.01 seconds
      memory              2770.62k
      OS Memory           31412.00k
      Timestamp           11/01/2024 06:30:07 PM
      Step Count                        89  Switch Count  13
      Page Faults                       0
      Page Reclaims                     377
      Page Swaps                        0
      Voluntary Context Switches        57
      Involuntary Context Switches      3
      Block Input Operations            0
      Block Output Operations           576


339
340         proc freq data= new_merge;
341         tables BMI_categories/ CHISQ EXPECTED;
342         WEIGHT Diabetes_binary;
343         run;

NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.15 seconds
      user cpu time       0.08 seconds
      system cpu time     0.02 seconds
      memory              10245.37k
      OS Memory           36920.00k
      Timestamp           11/01/2024 06:30:08 PM
      Step Count                        90  Switch Count  11
      Page Faults                       0
      Page Reclaims                     1901
      Page Swaps                        0
      Voluntary Context Switches        189
      Involuntary Context Switches      8
      Block Input Operations            0
      Block Output Operations           824


344
345         proc freq data= new_merge;
346         tables BMI_categories/ CHISQ EXPECTED;
347         WEIGHT heartdiseaseorattack;
348         run;

NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE FREQ used (Total process time):
      real time           0.13 seconds
      user cpu time       0.06 seconds
      system cpu time     0.01 seconds
      memory              4259.78k
      OS Memory           36920.00k
      Timestamp           11/01/2024 06:30:08 PM
      Step Count                        91  Switch Count  11
      Page Faults                       0
      Page Reclaims                     628
      Page Swaps                        0
```

```
      Voluntary Context Switches        182
      Involuntary Context Switches      5
      Block Input Operations            0
      Block Output Operations           576


349
350        proc means data=new_merge;
351        var BMI;
352        CLASS Diabetes_binary;
353        RUN;

NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE MEANS used (Total process time):
      real time           0.04 seconds
      user cpu time       0.05 seconds
      system cpu time     0.02 seconds
      memory              10198.78k
      OS Memory           44480.00k
      Timestamp           11/01/2024 06:30:08 PM
      Step Count                        92  Switch Count  10
      Page Faults                       0
      Page Reclaims                     2218
      Page Swaps                        0
      Voluntary Context Switches        81
      Involuntary Context Switches      6
      Block Input Operations            0
      Block Output Operations           0


354
355        proc ttest data=new_merge;
356        var BMI;
357        class Diabetes_binary;
358        RUN;

NOTE: PROCEDURE TTEST used (Total process time):
      real time           7.12 seconds
      user cpu time       5.56 seconds
      system cpu time     0.61 seconds
      memory              29918.87k
      OS Memory           63468.00k
      Timestamp           11/01/2024 06:30:15 PM
      Step Count                        93  Switch Count  179
      Page Faults                       0
      Page Reclaims                     62723
      Page Swaps                        0
      Voluntary Context Switches        45290
      Involuntary Context Switches      107
      Block Input Operations            0
      Block Output Operations           603576


359        /*attempted to remove of outlier
360        BMI >= 50 DELETE observations
361        result is similar */
362
363        proc ttest data=new_merge;
364        var BMI;
365        class heartdiseaseorattack;
366        RUN;

NOTE: PROCEDURE TTEST used (Total process time):
      real time           6.95 seconds
      user cpu time       5.60 seconds
      system cpu time     0.54 seconds
      memory              31111.67k
      OS Memory           65772.00k
      Timestamp           11/01/2024 06:30:22 PM
      Step Count                        94  Switch Count  142
      Page Faults                       0
      Page Reclaims                     62569
      Page Swaps                        0
      Voluntary Context Switches        43750
      Involuntary Context Switches      78
      Block Input Operations            0
      Block Output Operations           619216


367
368
369        proc gbarline data=new_merge;
370        bar n_age;
```

```
371        plot /sumvar=diabetes_binary;
372        run;

373

NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE GBARLINE used (Total process time):
      real time           0.23 seconds
      user cpu time       0.20 seconds
      system cpu time     0.03 seconds
      memory              19888.17k
      OS Memory           55728.00k
      Timestamp           11/01/2024 06:30:22 PM
      Step Count                        95  Switch Count  3
      Page Faults                       0
      Page Reclaims                     4801
      Page Swaps                        0
      Voluntary Context Switches        11
      Involuntary Context Switches      5
      Block Input Operations            0
      Block Output Operations           232


374        proc tabulate data=new_merge;
375        class n_age BMI_categories;
376        var diabetes_binary heartdiseaseorattack;
377        table n_age*BMI_categories,(diabetes_binary heartdiseaseorattack)*(mean='Percentage')/misstext='0.0%';
378        run;

NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE TABULATE used (Total process time):
      real time           0.06 seconds
      user cpu time       0.09 seconds
      system cpu time     0.02 seconds
      memory              9378.92k
      OS Memory           44236.00k
      Timestamp           11/01/2024 06:30:22 PM
      Step Count                        96  Switch Count  9
      Page Faults                       0
      Page Reclaims                     1796
      Page Swaps                        0
      Voluntary Context Switches        240
      Involuntary Context Switches      0
      Block Input Operations            0
      Block Output Operations           568


379
380        /*perform logistic regression because of binary data*/
381        proc logistic data=NEW_MERGE;
382            model Diabetes_binary(event='1') = BMI; /* Replace with actual variable names */
383            title "Logistic Regression of Diabetes on BMI";
384        run;

NOTE: PROC LOGISTIC is modeling the probability that Diabetes_binary='1'.
NOTE: Convergence criterion (GCONV=1E-8) satisfied.
NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE LOGISTIC used (Total process time):
      real time           0.48 seconds
      user cpu time       0.41 seconds
      system cpu time     0.07 seconds
      memory              30195.57k
      OS Memory           67416.00k
      Timestamp           11/01/2024 06:30:23 PM
      Step Count                        97  Switch Count  14
      Page Faults                       0
      Page Reclaims                     5097
      Page Swaps                        0
      Voluntary Context Switches        47
      Involuntary Context Switches      2
      Block Input Operations            0
      Block Output Operations           46128


385
386        proc logistic data=NEW_MERGE;
387            model Diabetes_binary(event='1') = BMI age; /* Replace with actual variable names */
388            title "Logistic Regression of Diabetes with Multiple Predictors";
389        run;

NOTE: PROC LOGISTIC is modeling the probability that Diabetes_binary='1'.
NOTE: Convergence criterion (GCONV=1E-8) satisfied.
NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
```

```
NOTE: PROCEDURE LOGISTIC used (Total process time):
      real time           0.51 seconds
      user cpu time       0.45 seconds
      system cpu time     0.06 seconds
      memory              32060.32k
      OS Memory           69400.00k
      Timestamp           11/01/2024 06:30:23 PM
      Step Count                        98  Switch Count  28
      Page Faults                       0
      Page Reclaims                     5067
      Page Swaps                        0
      Voluntary Context Switches        86
      Involuntary Context Switches      4
      Block Input Operations            0
      Block Output Operations           48688


390
391        proc logistic data=NEW_MERGE;
392            model heartdiseaseorattack(event='1') = BMI age; /* Replace with actual variable names */
393            title "Logistic Regression of Diabetes with Multiple Predictors";
394        run;

NOTE: PROC LOGISTIC is modeling the probability that HeartDiseaseorAttack='1'.
NOTE: Convergence criterion (GCONV=1E-8) satisfied.
NOTE: There were 253680 observations read from the data set WORK.NEW_MERGE.
NOTE: PROCEDURE LOGISTIC used (Total process time):
      real time           0.52 seconds
      user cpu time       0.45 seconds
      system cpu time     0.08 seconds
      memory              32052.76k
      OS Memory           69400.00k
      Timestamp           11/01/2024 06:30:24 PM
      Step Count                        99  Switch Count  28
      Page Faults                       0
      Page Reclaims                     5067
      Page Swaps                        0
      Voluntary Context Switches        88
      Involuntary Context Switches      6
      Block Input Operations            0
      Block Output Operations           48688


395
396        OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
406
```