```
1          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
68
69         /* importing data from Excel
70         /* setting column names to match Excel file */
71         data collegiate;
72         infile '/home/u63996162/STAT468 Senior Research Project/College Sports Injury Outcomes.csv' dlm = ',' firstobs=2;
73         input Heart_Rate_BPM Respiratory_Rate_BPM Skin_Temperature_C
74              Blood_Oxygen_Level_Percent Impact_Force_Newtons Cumulative_Fatigue_Index Duration_Minutes
75              Injury_Risk_Score Injury_Occurred isHeavyContact isMildContact isIntense;
76         run;
```

NOTE: The infile '/home/u63996162/STAT468 Senior Research Project/College Sports Injury Outcomes.csv' is:
      Filename=/home/u63996162/STAT468 Senior Research Project/College Sports Injury Outcomes.csv,
      Owner Name=u63996162,Group Name=oda,
      Access Permission=-rw-r--r--,
      Last Modified=21Nov2025:16:20:51,
      File Size (bytes)=16839839

NOTE: LOST CARD.
Heart_Rate_BPM=0 Respiratory_Rate_BPM=0 Skin_Temperature_C=0 Blood_Oxygen_Level_Percent=0 Impact_Force_Newtons=0
Cumulative_Fatigue_Index=0 Duration_Minutes=0 Injury_Risk_Score=0 Injury_Occurred=0 isHeavyContact=. isMildContact=. isIntense=.
ERROR=1 _N_=262894
NOTE: 1048575 records were read from the infile '/home/u63996162/STAT468 Senior Research Project/College Sports Injury
      Outcomes.csv'.
      The minimum record length was 14.
      The maximum record length was 77.
NOTE: SAS went to a new line when INPUT statement reached past the end of a line.
NOTE: The data set WORK.COLLEGIATE has 262893 observations and 12 variables.
NOTE: DATA statement used (Total process time):
      real time   0.17 seconds
      user cpu time   0.15 seconds
      system cpu time   0.01 seconds
      memory   2059.53k
      OS Memory   23972.00k
      Timestamp   11/21/2025 11:43:51 PM
      Step Count   70 Switch Count 2
      Page Faults   0
      Page Reclaims   221
      Page Swaps   0
      Voluntary Context Switches   19
      Involuntary Context Switches 2
      Block Input Operations   0
      Block Output Operations   49416


```
77
78         /* proc print to check data set
79         proc print data=collegiate;
80         run;
81         */
82
83         /* checks for multicollinearity */
84         proc reg data=collegiate;
85         model Injury_Occurred = Heart_Rate_BPM Respiratory_Rate_BPM Skin_Temperature_C
86         Blood_Oxygen_Level_Percent Impact_Force_Newtons Cumulative_Fatigue_Index
87         Duration_Minutes isHeavyContact isMildContact isIntense / vif collinoint;
88         run;
```

WARNING: ODS graphics with more than 5000 points have been suppressed. Use the PLOTS(MAXPOINTS=) option in the PROC REG statement
         to change or override the cutoff.
```
89
90         /* binary logistic regression model */
```

NOTE: PROCEDURE REG used (Total process time):
      real time   0.17 seconds
      user cpu time   0.14 seconds
      system cpu time   0.04 seconds
      memory   6011.25k
      OS Memory   27580.00k
      Timestamp   11/21/2025 11:43:51 PM
      Step Count   71 Switch Count 4
      Page Faults   0
      Page Reclaims   805
      Page Swaps   0
      Voluntary Context Switches   23
      Involuntary Context Switches 5
      Block Input Operations   0
      Block Output Operations   117832


```
91         proc logistic data=collegiate;
92         model Injury_Occurred = Heart_Rate_BPM Blood_Oxygen_Level_Percent Impact_Force_Newtons
```

```
93          Cumulative_Fatigue_Index Duration_Minutes isHeavyContact isMildContact isIntense;
94          run;

NOTE: PROC LOGISTIC is modeling the probability that Injury_Occurred=0. One way to change this to model the probability that
      Injury_Occurred=1 is to specify the response variable option EVENT='1'.
NOTE: Convergence criterion (GCONV=1E-8) satisfied.
NOTE: There were 262893 observations read from the data set WORK.COLLEGIATE.
NOTE: PROCEDURE LOGISTIC used (Total process time):
      real time              1.13 seconds
      user cpu time          1.08 seconds
      system cpu time        0.05 seconds
      memory                 45834.90k
      OS Memory              70044.00k
      Timestamp              11/21/2025 11:43:52 PM
      Step Count                        72  Switch Count  11
      Page Faults                       0
      Page Reclaims                     4854
      Page Swaps                        0
      Voluntary Context Switches        38
      Involuntary Context Switches      6
      Block Input Operations            0
      Block Output Operations           74304


95
96
97
98
99          OPTIONS NONOTES NOSTIMER NOSOURCE NOSYNTAXCHECK;
109
```