Checkpoint3LogisticReg.R

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```r
data_log_reg <-
read.csv("/Users/brandonvidro/Downloads/LassoForwardSelectionDataSetForModeli
ngLogReg.csv")

head(data_log_reg)
```

```
##   Adolescent.fertility.rate..births.per.1.000.women.ages.15.19.
## 1                                                      145.3210
## 2                                                       46.6478
## 3                                                       56.3066
## 4                                                       88.5072
## 5                                                      100.5586
## 6                                                       88.4568
##   Urban.population....of.total. GDP.per.capita..current.US..
## 1                         9.426                     82.23139
## 2                        83.110                   2127.16574
## 3                        64.962                   1269.41258
## 4                        11.801                    104.32376
## 5                        37.957                    203.60125
## 6                        50.059                    259.46697
##
Merchandise.exports.by.the.reporting.economy..residual....of.total.merchandis
e.exports.
## 1
44.252874
## 2
9.663118
## 3
11.543540
## 4
1.526718
## 5
2.370500
## 6
8.379342
##   Permanent.cropland....of.land.area.
## 1                           0.11181570
## 2                           0.02199862
## 3                           0.81133446
## 4                           0.70947144
## 5                           0.12646543
## 6                           0.74669723
```

```
##    Population.density..people.per.sq..km.of.land.area.
## 1                                            14.901579
## 2                                             1.453601
## 3                                            87.476399
## 4                                            22.936875
## 5                                             3.683980
## 6                                             9.781100
##    Arable.land..hectares.per.person. Arable.land....of.land.area.
## 1                         0.8017561                     11.947431
## 2                         3.1682636                      4.605392
## 3                         0.2293806                     20.065391
## 4                         0.3789106                      8.691025
## 5                         0.3360182                      1.237884
## 6                         0.3302679                      3.230384
##    CO2.emissions.from.solid.fuel.consumption..kt.
Merchandise.trade....of.GDP.
## 1                                        300.694
23.50000
## 2                                      67190.441
26.82261
## 3                                      18951.056
36.08512
## 4                                          0.000
16.41000
## 5                                          3.667
24.45286
## 6                                       6175.228
12.69571
##    AboveAverageLifeExpectancyByYear
## 1                             FALSE
## 2                              TRUE
## 3                              TRUE
## 4                             FALSE
## 5                             FALSE
## 6                              TRUE
```

```r
log_reg = glm(AboveAverageLifeExpectancyByYear ~ ., data = data_log_reg,
family = "binomial")
```

```
## Warning: glm.fit: fitted probabilities numerically 0 or 1 occurred
```

```r
summary(log_reg)
```

```
##
## Call:
## glm(formula = AboveAverageLifeExpectancyByYear ~ ., family = "binomial",
##     data = data_log_reg)
##
## Deviance Residuals:
##     Min       1Q   Median       3Q      Max
## -3.2464  -0.3971   0.0269   0.4403   2.6116
```

```
##
## Coefficients:
##
Estimate
## (Intercept)
-2.686e-02
## Adolescent.fertility.rate..births.per.1.000.women.ages.15.19.
-2.744e-02
## Urban.population....of.total.
6.182e-02
## GDP.per.capita..current.US..
2.330e-04
##
Merchandise.exports.by.the.reporting.economy..residual....of.total.merchandis
e.exports.  -1.307e-02
## Permanent.cropland....of.land.area.
2.792e-02
## Population.density..people.per.sq..km.of.land.area.
2.014e-03
## Arable.land..hectares.per.person.
-1.047e+00
## Arable.land....of.land.area.
-2.801e-02
## CO2.emissions.from.solid.fuel.consumption..kt.
-1.604e-07
## Merchandise.trade....of.GDP.
-5.298e-04
##
Std. Error
## (Intercept)
1.996e-01
## Adolescent.fertility.rate..births.per.1.000.women.ages.15.19.
1.161e-03
## Urban.population....of.total.
2.974e-03
## GDP.per.capita..current.US..
2.904e-05
##
Merchandise.exports.by.the.reporting.economy..residual....of.total.merchandis
e.exports.   3.238e-03
## Permanent.cropland....of.land.area.
9.174e-03
## Population.density..people.per.sq..km.of.land.area.
4.519e-04
## Arable.land..hectares.per.person.
1.446e-01
## Arable.land....of.land.area.
4.012e-03
## CO2.emissions.from.solid.fuel.consumption..kt.
4.156e-08
```

```
## Merchandise.trade....of.GDP.
1.061e-03
##
z value
## (Intercept)
-0.135
## Adolescent.fertility.rate..births.per.1.000.women.ages.15.19.
-23.629
## Urban.population....of.total.
20.783
## GDP.per.capita..current.US..
8.024
##
Merchandise.exports.by.the.reporting.economy..residual....of.total.merchandis
e.exports.   -4.037
## Permanent.cropland....of.land.area.
3.043
## Population.density..people.per.sq..km.of.land.area.
4.457
## Arable.land..hectares.per.person.
-7.237
## Arable.land....of.land.area.
-6.982
## CO2.emissions.from.solid.fuel.consumption..kt.
-3.859
## Merchandise.trade....of.GDP.
-0.499
##
Pr(>|z|)
## (Intercept)
0.892986
## Adolescent.fertility.rate..births.per.1.000.women.ages.15.19.
< 2e-16
## Urban.population....of.total.
< 2e-16
## GDP.per.capita..current.US..
1.03e-15
##
Merchandise.exports.by.the.reporting.economy..residual....of.total.merchandis
e.exports. 5.42e-05
## Permanent.cropland....of.land.area.
0.002339
## Population.density..people.per.sq..km.of.land.area.
8.32e-06
## Arable.land..hectares.per.person.
4.59e-13
## Arable.land....of.land.area.
2.90e-12
## CO2.emissions.from.solid.fuel.consumption..kt.
0.000114
```

```
## Merchandise.trade....of.GDP.
0.617625
##
## (Intercept)
## Adolescent.fertility.rate..births.per.1.000.women.ages.15.19.
***
## Urban.population....of.total.
***
## GDP.per.capita..current.US..
***
##
Merchandise.exports.by.the.reporting.economy..residual....of.total.merchandis
e.exports. ***
## Permanent.cropland....of.land.area.
**
## Population.density..people.per.sq..km.of.land.area.
***
## Arable.land..hectares.per.person.
***
## Arable.land....of.land.area.
***
## CO2.emissions.from.solid.fuel.consumption..kt.
***
## Merchandise.trade....of.GDP.
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1
##
## (Dispersion parameter for binomial family taken to be 1)
##
##     Null deviance: 8482.8  on 6258  degrees of freedom
## Residual deviance: 3823.5  on 6248  degrees of freedom
## AIC: 3845.5
##
## Number of Fisher Scoring iterations: 8
```