CSP 571 Data Preparation and Analysis

Midterm Exam - Part 2

1) **A classifier being tested against out of sample data resulted in a Precision value of 0.67 - given the model successfully predicted 21590 True Positive cases, what number of False Positive cases are expected?**

A. **10,634**

2) **A regression model estimated using n=6462 sample observations with a single feature has a fitted coefficient B1=95.84 with an associated standard error SE{B1)=29.90. What is the t-statistic for this feature in our model?**

A. **3.21**

3) **Given 1504 observations and 3555 features in a sample dataset, what is the largest number of features that can be selected when performing forward selection while still being able to estimate a model with finite variance?**

A. **1,504**

4) **Given a training dataset with 94 observations, when performing a bootstrap for resampling with replacement, what is the probability that an arbitrary observation xi is NOT included in the boostrap sample?**

A. **0.37**

5) **Given training observations having y={93,71,6,41} with corresponding x={15,60,91,41}, if the predictor x is centered, what value does B0 take on in an OLS model?**

A. **52.75**

6) **When performing a Lasso regression, we obtain the following regression coefficient estimates: B0=99.40, B1=30.70, B2=78.62, B3=?. Assuming a value of 1 for the tuning parameter lambda and a**

total value of the penalty applied to the loss function equal to 1276.20, determine the value of B3.

A. 1,166.88