**Name:**

**Question 1: Final project topic posting on message board**

For full participation credit, please reply to my post on the course message board with at least three project topic ideas. Once you’ve done so, copy and paste your post below:

Gradient Boosting Machines, Principal Component Analysis, Simple Effects Analysis.

Using one of the three methods above I'd like to analyze median home values by region in the US. I would like to create a combined data set of median home values by region pulled from the Zillow Home Value Index (ZHVI) available on Zillow.com and socioeconomic factors specific to a region gathered from the U.S. Bureau of Economic Analysis.

1. Can gradient boosting be used to predict median home value?
2. Does principal component analysis shed light on which factors contribute most significantly to median home value.
3. Are there significant interactions between any factors affecting median home value in a region? If so, can simple effects analysis be used to further explain the nature of the interaction?

**Question 2: Confusion matrix exercise**

Use the confusion matrix to answer the questions below.

|  |  |  |  |
| --- | --- | --- | --- |
|  | Predicted | | |
| Actual |  | 0 | 1 |
| 0 | 55 | 5 |
| 1 | 10 | 30 |

What is the accuracy of this model?

The accuracy of the model is 0.85 or 85%.

What is the precision of this model?

The precision of the model is 0.8571428571 or approximately 86%

What is the recall of this model?

The recall of the model is 0.75 or 75%.

What is the F1 score of this model?

The F1 score of the model is 0.8 or 80%