**QUESTION 1**

1. In R calculate the summary statistics.

Describe what the summary statistics tell you about each variable:

**1 points**

**QUESTION 2**

1. In R compute the pairs plot (or scatterplot) of the continuous variables.

Describe what this plot tells you about the relationship between each of the variables and the what it tells you about the distribution of each variable.

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**1 points**

**QUESTION 3**

1. In R compute the correlation coefficients.

Describe what the correlation tell you about the variables.

**1 points**

**QUESTION 4**

1. In R compute the boxplot of the response variable grouped by each of the categorical variables (i.e. boxplot(response~category))

Describe what this tells you about how the response is affected by the categorical variables

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**1 points**

**QUESTION 5**

1. In R run a forward stepwise regression.

Describe how the forward stepwise regression selected the "best" model.

**1 points**

**QUESTION 6**

1. In R check if there is interactions between the continuous predictor variables in your "best" model and the categorical variables in your "best" model. Describe what interactions if any you can see in the plots and discuss how you will modify your model to account for these interactions

Removing NA interaction position RF and LF due to extreme collinearity

**1 points**

**QUESTION 7**

1. Does your modified "best" model have multicollinearity? What test did your use to assess if your model had multicollinearity? What were the results of the test? What are the implications of the model having multicollinearity? In R modify your model to remove the multicollinearity if it is present. Describe what you did to remove the multicollinearity if it was present?

**1 points**

**QUESTION 8**

1. In R use the lm function to build your model with the variables chosen by the results of the previous questions. Get the diagnostics of the model and describe what each plot say about your model.

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**1 points**

**QUESTION 9**

1. Are there outliers in your residuals? What measure can you use to check for outliers? Report this measure for your model and if there are points identified as outliers remove them and re-run your model?

**1 points**

**QUESTION 10**

1. In R compute the summary of the model.

Describe what the summary tells you about the relationship between the overall rating and the other variables

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**1 points**

**QUESTION 11**

1. Using the information in the summary of the linear model detail which of the predictor variables are significantly contributing to the overall rating

**1 points**

**QUESTION 12**

1. Using the information in the summary of the linear model. What test determines if at least one of the predictor variables is significantly different from zero. What is the value of the test for this model and what does that mean for the model.

**1 points**

**QUESTION 13**

1. What is the adjusted  of your model? What is the AIC of your model? What do these measures tell you about your model?

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| For the toolbar, press ALT+F10 (PC) or ALT+FN+F10 (Mac). |