### Assignment 6

**Due on**: 19th Dec, 2018, 8 PM

**Objective**: Continue with the assignment from previous week. This week you have to test your understanding of the following concepts:

<table>
<thead>
<tr>
<th>Concept</th>
<th>Points</th>
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</thead>
<tbody>
<tr>
<td><strong>Probability &amp; Statistics</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Basic Statistics</strong></td>
<td>1 point</td>
</tr>
<tr>
<td><strong>Probability</strong></td>
<td>1 point</td>
</tr>
<tr>
<td><strong>Random Variables</strong></td>
<td>1 point</td>
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<tr>
<td><strong>Continuous Random Variables</strong></td>
<td>1 point</td>
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<tr>
<td><strong>Joint Probability Distributions</strong></td>
<td>1 point</td>
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<tr>
<td><strong>Statistical Inference</strong></td>
<td>1 point</td>
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<tr>
<td><strong>Hypothesis Testing</strong></td>
<td>1 point</td>
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<tr>
<td><strong>Regression Analysis</strong></td>
<td>1 point</td>
</tr>
<tr>
<td><strong>Analysis of Variance (ANOVA)</strong></td>
<td>1 point</td>
</tr>
</tbody>
</table>

**Instructions**

1. **Probability & Statistics**
   - Read and understand the basics of probability and statistics.
   - Solve problems related to probability and statistics.

2. **Basic Statistics**
   - Focus on the fundamentals of statistics.
   - Practice solving problems related to basic statistical concepts.

3. **Probability**
   - Study the principles of probability theory.
   - Work on problems that involve calculating probabilities.

4. **Random Variables**
   - Understand the concept of random variables.
   - Practice problems related to random variables.

5. **Continuous Random Variables**
   - Study continuous probability distributions.
   - Solve problems involving continuous random variables.

6. **Joint Probability Distributions**
   - Learn about joint distributions of random variables.
   - Practice problems related to joint probability distributions.

7. **Statistical Inference**
   - Study the methods of statistical inference.
   - Practice hypothesis testing and regression analysis.

8. **Hypothesis Testing**
   - Understand the process of hypothesis testing.
   - Practice problems related to hypothesis testing.

9. **Regression Analysis**
   - Study the regression analysis techniques.
   - Practice problems related to regression analysis.

10. **Analysis of Variance (ANOVA)**
    - Learn about the analysis of variance.
    - Practice problems related to ANOVA.

**Learning Outcomes**

- Understand the concepts of probability and statistics.
- Apply statistical methods to solve problems.
- Perform hypothesis testing and regression analysis.
- Understand the principles of ANOVA.

**References**