

Practice 1

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Question 1

For the following measurements

1 5 3 10 5 7 11 8 5 5 1 2 3

1. What is n ?
2. Compute $x_{(5)}$.
3. Compute $x_{(1)}$ and $x_{(n)}$.
4. What is mean value?
5. What is median value?
6. Compute Q_1 and Q_3 .
7. What is IQR?
8. What is UF and LF ?
9. Are there any outliers?
10. Draw a boxplot.

Question 2

For new measurements

1 1 3 2 4 3 11 8 4 5

1. Repeat all computations from the previous question.
2. Which boxplot was harder to compute and why?

Question 3

This famous (Fisher's or Anderson's) iris data set gives the measurements in centimeters of the variables sepal length and width and petal length and width, respectively, for 10 flowers from each of 3 species of iris. The species are *Iris setosa*, *versicolor*, and *virginica*.

| ## | Sepal.Length | Sepal.Width | Petal.Length | Petal.Width | Species |
|-------|--------------|-------------|--------------|-------------|---------|
| ## 1 | 5.1 | 3.5 | 1.4 | 0.2 | setosa |
| ## 2 | 4.9 | 3.0 | 1.4 | 0.2 | setosa |
| ## 3 | 4.7 | 3.2 | 1.3 | 0.2 | setosa |
| ## 4 | 4.6 | 3.1 | 1.5 | 0.2 | setosa |
| ## 5 | 5.0 | 3.6 | 1.4 | 0.2 | setosa |
| ## 6 | 5.4 | 3.9 | 1.7 | 0.4 | setosa |
| ## 7 | 4.6 | 3.4 | 1.4 | 0.3 | setosa |
| ## 8 | 5.0 | 3.4 | 1.5 | 0.2 | setosa |
| ## 9 | 4.4 | 2.9 | 1.4 | 0.2 | setosa |
| ## 10 | 4.9 | 3.1 | 1.5 | 0.1 | setosa |

1. What are the observational units?
2. How many observations are there?
3. How many variables are there?
4. How many categorical and quantitative variables?