HOMEWORK 1

Exercise1: Python Nuts and Bolts

1. Ask the user to enter any number of his choice (Hint, use input function) and add 2 to it and print the output.

5. Generate numbers from 10 to 30 in increments of 3. Generate numbers from 30 to 10 in decrement of 4.

2. Define data type of below objects

x = [0.5, 0.6]

x = [True, False]

x = ("a", "b", "c")

Lists, Arrays, Data Frames

2. Given below a List try to answer the related questions.

1. list1 = [1, 4, 6, 8, 10]

2. How to access the last element of this list

3. Insert 12 at position 3 in the given vector

3. Write a list to generate numbers between 2 to 100 with an interval of 5 and then complete the below operations.

1. Sum of the list

2. 20^{th}, 60^{th} and 90^{th} percentile of the list

3. Find Q1, Q2, and Q3 and calculate IQR of the list. What is the lower and upper bound for a value to be considered an outlier?

4. Generate 2*3(2 rows and 3 columns) array having elements from 1 to 6 and write the code to do the following.

1. Fetch the element at position 1st row and 3rd column
2. Fetch all elements of 2nd row
3. Fetch all elements of 2nd column
4. Calculate mean of matrix elements.

6. What is the difference between a list, Tuple, Array and a SET?

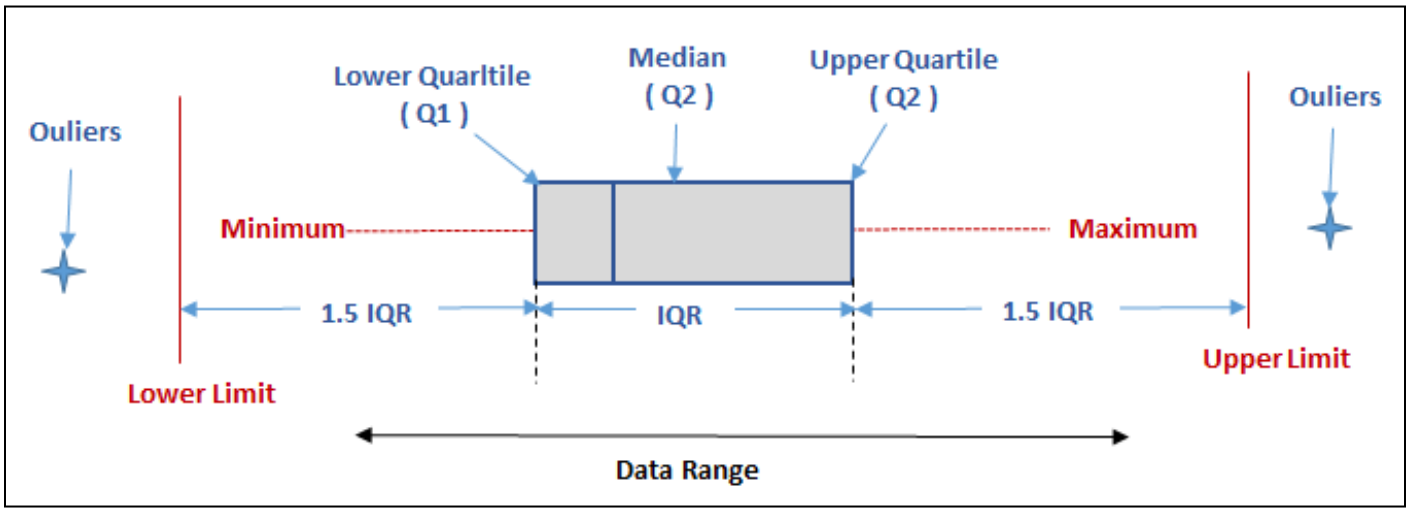
7) Create the following Loops-

1) **Create a Loop to print out only odd number from [2,4,3,5,7,4,11]**

2) **Create a loop to print all prime numbers from [57,4,13,5,17,42,11]**

3) **Use Numpy to multiple 2 arrays [[1,2,3],[4,5,6]] size (2*3) and [[1,4],[2,5],[3,6]] size (3*2)- Hint use np.matrix(x).**

4) **Study the different parts of this Box plot.**



5) **Read the Document attached with the mail.**

6) **Average or Mean is affected by outliers and Median is not. Prove this with an example.**