1. Generate a random expenditure set data and find out measures of central tendency
    a. Using external libraries and
    b. Without using in external libraries

2. Generate an array of 200 random integers in between the range and find the most occurring value
    a. Using external libraries
    b. without using external libraries

3. Consider a list of random integers and calculate the measures of variation

4. Create a dataframe out of the dictionary and get the descriptive statistics of the dataframe

```
sample = data = {'name': ['Ram', 'Shyam', 'Radha', 'Jan', 'Hari'],
                 'age': [42, 52, 36, 24, 73],
                 'preTestScore': [4, 24, 31, 2, 3],
                'postTestScore': [25, 94, 57, 62, 70]}
```

5. Read the data from the below link
https://drive.google.com/file/d/1sxQUteWWGlB_zrQSMYMi6egT-uZKVUSc/view?usp=sharing

Calculate the descriptive statistics of the dataframe and check
- whether the data is following normal distribution
- correlation between the columns in the dataset

6. Explain about the types of data with examples

7. What is the probability range of any event ?

8. The following table contains the different age group peoples who have defaulted and not defaulted on Loans.

| | | Age | | | |
|---|---|---|---|---|---|
| | | Young | Middle-Aged | Senior Citizens | Total |
| Loan Default | No | **10503** | 27368 | 259 | 38130 |
| | Yes | 3,586 | 4,851 | **120** | 8557 |
| | Total | 14089 | 32219 | 379 | 46687 |

Table - 1

Converting the above table into probabilities

| | | Age | | | |
|---|---|---|---|---|---|
| | | Young | Middle-Aged | Senior Citizens | Total |
| Loan Default | No | 0.225 | 0.586 | 0.005 | 0.816 |
| | Yes | 0.077 | 0.104 | 0003 | 0.184 |
| | Total | 0.302 | 0.690 | 0.008 | 1.000 |

Table - 2

**Q) What is the probability that a person will not default on the loan given he/she is middle-aged?**

Q) **What is the probability that a person is middle-aged given he/she has not defaulted on the loan?**

9. Take any dataset of your own and Using boxplot, visualize the outliers if present in the dataset?

10. Check the data types and get the summary statistics.