**Exercises: Level 1**

1. Python has the module called *statistics* and we can use this module to do all the statistical calculations. However, to learn how to make function and reuse function let us try to develop a program, which calculates the measure of central tendency of a sample (mean, median, mode) and measure of variability (range, variance, standard deviation). In addition to those measures, find the min, max, count, percentile, and frequency distribution of the sample. You can create a class called Statistics and create all the functions that do statistical calculations as methods for the Statistics class. Check the output below.

ages = [31, 26, 34, 37, 27, 26, 32, 32, 26, 27, 27, 24, 32, 33, 27, 25, 26, 38, 37, 31, 34, 24, 33, 29, 26]

print('Count:', data.count()) # 25

print('Sum: ', data.sum()) # 744

print('Min: ', data.min()) # 24

print('Max: ', data.max()) # 38

print('Range: ', data.range() # 14

print('Mean: ', data.mean()) # 30

print('Median: ', data.median()) # 29

print('Mode: ', data.mode()) # {'mode': 26, 'count': 5}

print('Standard Deviation: ', data.std()) # 4.2

print('Variance: ', data.var()) # 17.5

print('Frequency Distribution: ', data.freq\_dist()) # [(20.0, 26), (16.0, 27), (12.0, 32), (8.0, 37), (8.0, 34), (8.0, 33), (8.0, 31), (8.0, 24), (4.0, 38), (4.0, 29), (4.0, 25)]

# you output should look like this

print(data.describe())

Count: 25

Sum: 744

Min: 24

Max: 38

Range: 14

Mean: 30

Median: 29

Mode: (26, 5)

Variance: 17.5

Standard Deviation: 4.2

Frequency Distribution: [(20.0, 26), (16.0, 27), (12.0, 32), (8.0, 37), (8.0, 34), (8.0, 33), (8.0, 31), (8.0, 24), (4.0, 38), (4.0, 29), (4.0, 25)]

**Exercises: Level 2**

1. Create a class called PersonAccount. It has firstname, lastname, incomes, expenses properties and it has total\_income, total\_expense, account\_info, add\_income, add\_expense and account\_balance methods. Incomes is a set of incomes and its description. The same goes for expenses.