**Assignment**

**Statistics**

1. Determine the central tendency of the below Population:

-993, -23,18,-2,-6,98,45,32,-45,843,1024,-256

1. Calculate the Standard Deviation and Variance of the below sample :

-99, -2,18,-23,-61,1,982,45,32,-45

1. You have 8 numbers. The mean is 6. You add 5 to each number in the group. What is the new mean?
2. You have 15 numbers. The mean is 10, and the variance is 4. You multiply each number by 3. What is the new standard deviation?
3. Temperature of 5 cities are given, from the given values, what would be the mean and standard deviation of temperature in Celsius?

(**Hint**: Celsius = 0.556F - 17.778)

|  |  |
| --- | --- |
| **City** | **Degrees Fahrenheit** |
| Delhi | 82 |
| Bangalore | 77 |
| Coorg | 41 |
| Coimbatore | 78 |
| Chennai | 84 |

1. Construct a boxplot for the following data set.

3, 5, 8, 8, 9, 11, 12, 12, 13, 13, 163,5,8,8,9,11,12,12,13,13,16

1. Consider below dataset, calculate the skewness and then tell if it is left skewed or right skewed?

12,   13,   54,   56 ,  25

1. Determine the excess-kurtosis of the below dataset and then categorize it according to the type of kurtosis it is and give its characteristics.

12,   13,   54,   56 ,  25

1. Determine the outliers in the below dataset using IQR formula.

1, 99, 100, 101, 103, 109, 110, 201

1. Determine the outlier in the below dataset using Z-score.

1.5895, 1.6508, 1.7131, 1.7136,1.7212, 1.7296, 1.7343, 1.7663, 1.8018, 1.8394, 1.8869, 1.9357, 1.9482, 2.1038, 10.8135, -0.0012

1. Below is the mark obtained by some students. Construct a bar chart for it:

|  |  |
| --- | --- |
| **Student** | **Marks** |
| Rohan | 83 |
| Bhavya | 72 |
| Sri | 96 |
| Riteish | 37 |
| Neha | 64 |

1. Below are some observations obtained from a hospital and shows glucose level of some patients. Check the correlation of the variables and then tell if it has positive, negative or no relation between them. Calculate co-variance and also plot a scatter-plot to see the relation visually.

|  |  |  |
| --- | --- | --- |
| **Patient** | **Age (years)** | **Glucose Level** |
| A | 46 | 99 |
| B | 24 | 65 |
| C | 28 | 78 |
| D | 42 | 79 |
| E | 59 | 89 |
| F | 48 | 82 |

1. Try to find out if there is any correlation between Physical Activity and Blood Pressure. Calculate Spearman Rank Correlation.

