Assignment 1

Submitted By: Arpit Kaithwar

Roll No: 210191

Question: 2

Given Dataset: $[5, 3, 6, 9, 3, 6, 9, 1, 4, 1]$

1. Mean = $(5+3+6+9+3+6+9+1+4+1)/10$

   = 4.7

   To find Median:

   Sorted Dataset : $[1, 1, 3, 3, 4, 5, 6, 6, 9, 9]$

   Median = Average of Middle elements because here total number of elements are even.

   Median = $(4+5)/2$

   = 4.5

   Mode = 3

2. For Interquartile range : Split the data into two halves and find the median of both and then subtract them.

   Lower Half: $[1, 1, 3, 3, 4]$ -> Median1 = 3

   Upper Half: $[5, 6, 6, 9, 9]$ -> Median2 = 6

   Interquartile Range = 6 - 3

   IQR = 3

3. Check for outlier: Find the Lower Bound and Upper Bound and the value from data set which are below from lower bound or greater than upper bound are considered as outlier.

Lower Bound (LB) = Median1 - 1.5*IQR

$$= 3 - 1.5 * 3$$

$$= -1.5$$

Upper Bound (UB) = Median2 - 1.5*IQR

$$= 6 - 1.5 * 3$$

$$= 1.5$$

Outlier = 4

Question: 4

According to recent data, India has experienced a higher inflation rate compared to many other developed countries. There are several factors like increasing wages, rising raw material prices, higher taxes, declining productivity, and an increase in money supply.

IMF global economic forecast

Legend: World, US, UK, EU, Japan, Brazil, Russia, India, China, South Africa

2021: 6.1, 5.7, 7.4, 5.4, 1.7, 4.6, 4.7, 8.7, 8.1, 4.9

2022: 3.2, 2.3, 3.2, 2.6, 1.7, 1.7, -6.0, 7.4, 3.3, 2.3

2023: 2.9, 1.0, 0.5, 1.2, 1.7, 1.1, -3.5, 6.1, 4.6, 1.4