

Indian Institute of Technology Jodhpur
Data Analytics Lab

Assignment 2 (Due Date: 12 March 2023)

2022-23, Semester II

Instructor: Dr. Gaurav Bhatnagar

- (1) Create a vector X of all prime numbers from 1 to 1000. Use R to
 - (a) Count the number of elements in this vector X
 - (b) Find their sum
 - (c) Find their average.
 - (d) Add 5 to the last 10 elements of the vector X.
- (2) Create and store a sequence of values from -11 to 5 that progresses in steps of 0.3. Overwrite the object using the same sequence with the order reversed.
- (3) With the following data, create a plot of weight on the x -axis and height on the y -axis. Use different point characters or colors to distinguish between males and females and provide a matching legend. Label the axes and give the plot a title.

Weight (kg)	Height (cm)	Sex
55	161	female
85	185	male
75	174	male
42	154	female
93	188	male
63	178	male
58	170	female
75	167	male
89	181	male
67	178	female

Also represent the data by Box plot.

- (4) Use R to plot the three conic curves that is parabola, hyperbola and ellipse.

- (5) Generate 100 random numbers with Gaussian distribution with mean equal to 1 and variance equal to 0.5. Plot a histogram for the same.
- (6) Generate 100 random numbers with normal distribution with mean 50 and standard deviation 10. Find the proportion of numbers which are 2 standard deviations from the mean.
- (7) Plot a bar chart and pie chart for the following data:

Population (in Lakhs)	21	62	10	65
City	London	New York	Singapore	Dubai

- (8) Consider the Birth Dataset (attached here). Use R tools of descriptive statistics to obtain the measure of central tendency, measure of dispersion and various graphs and analyze the results.

Best of Luck