SIAM – VIT

Pandas

1) Construct a Pandas DataFrame using the following structures:
    a. List of lists
    b. Dictionary
    c. Comma separated values
    d. Text file
    e. JSON file

2) Convert the given csv file into a pandas dataframe and perform the following actions:
    a. Fill the missing values in “Odometer” with the mean of all values.
    b. Add a column named “Transmission”, which is used to demonstrate whether a car is equipped with automatic gears, or manual gears.
    c. How will you fill the “Transmission” column? Explain.

3) Construct a dataframe of shape (100, 5). Randomize the entry values in the dataframe, and create an excel sheet from it.

4) From the given csv file, create a plot between the following values using pandas only:

    a. “Odometer” v/s “Make”
    b. “Make” v/s “Doors”
    c. “Color” v/s “Price” for all values with the same “Make”
    d. “Make” v/s “Price” for all values with the same “Color”

5) Create a dataframe using multiple functions with the following columns, where ‘n’ is the row index:
    a. Column 1: Sum of natural numbers up to nth row
    b. Column 2: Sum of the squares of natural numbers up to nth row
    c. Column 3: Sum of the cubes of natural numbers up to nth row
    d. Column 4: Factorial of the nth number

Example:

Index	Column 1	Column 2	Column 3	Column 4
1	1	1	1	1
2	3	5	9	2
3	6	14	36	6