**INPUT: Data Frames and Basic Data Pre-processing**

• Read data from CSV and JSON files into a data frame.

• Perform basic data pre-processing tasks such as handling missing values and outliers.

• Manipulate and transform data using functions like filtering, sorting, and grouping.

**CODE:**

# Import pandas package

import pandas as pd

# Assign data

data = {'Name': ['Jai', 'Princi', 'Gaurav',

'Anuj', 'Ravi', 'Natasha', 'Riya'],

'Age': [17, 17, 18, 17, 18, 17, 17],

'Gender': ['M', 'F', 'M', 'M', 'M', 'F', 'F'],

'Marks': [90, 76, 'NaN', 74, 65, 'NaN', 71]}

# Convert into DataFrame

df = pd.DataFrame(data)

# Display data

print (df)

# Compute average

c = avg = 0

for ele in df['Marks']:

if str(ele).isnumeric():

c += 1

avg += ele

avg /= c

# Replace missing values

df = df.replace(to\_replace="NaN",

value=avg)

# Display data

print (df)

# Categorize gender

df['Gender'] = df['Gender'].map({'M': 0,

'F': 1, }).astype(float)

# Display data

print (df)

# Filter top scoring students

df = df[df['Marks'] >= 75].copy()

# Remove age column from filtered DataFrame

df.drop('Age', axis=1, inplace=True)

# Display data

print (df)

# import module

import pandas as pd

# creating DataFrame for Student Details

details = pd.DataFrame({

'ID': [101, 102, 103, 104, 105, 106,

107, 108, 109, 110],

'NAME': ['Jagroop', 'Praveen', 'Harjot',

'Pooja', 'Rahul', 'Nikita',

'Saurabh', 'Ayush', 'Dolly', "Mohit"],

'BRANCH': ['CSE', 'CSE', 'CSE', 'CSE', 'CSE',

'CSE', 'CSE', 'CSE', 'CSE', 'CSE']})

# printing details

print(details)

# Import module

import pandas as pd

# Creating Dataframe for Fees\_Status

fees\_status = pd.DataFrame(

{'ID': [101, 102, 103, 104, 105,

106, 107, 108, 109, 110],

'PENDING': ['5000', '250', 'NIL',

'9000', '15000', 'NIL',

'4500', '1800', '250', 'NIL']})

# Printing fees\_status

print(fees\_status)

**CONCLUSION:**