**lab11\_Pandas DataFrame\_ANP-C7281 and ANP-C7374**

**Name : Sridhara j b**

**Id : AF0362612**

**1: Suppose you are a teacher, and you want to analyze the exam scores of your students in a particular subject. You have recorded the scores of your students for a recent exam, and you want to represent this data using a Pandas Series.**

**Input: students = ['Alice', 'Bob', 'Charlie', 'David', 'Eve', 'Frank', 'Grace', 'Hannah', 'Ivy', 'Jack']**

**exam\_scores = [92, 88, 76, 94, 82, 90, 85, 89, 78, 91]**

**Output:**

**Alice 92**

**Bob 88**

**Charlie 76**

**David 94**

**Eve 82**

**Frank 90**

**Grace 85**

**Hannah 89**

**Ivy 78**

**Jack 91**

**Name: Exam Scores, dtype: int64**

**PROGRAM :**

import pandas as pd

students = ['Alice', 'Bob', 'Charlie', 'David', 'Eve', 'Frank', 'Grace', 'Hannah', 'Ivy', 'Jack']

exam\_scores = [92, 88, 76, 94, 82, 90, 85, 89, 78, 91]

exam\_series = pd.Series(exam\_scores, index=students, name='Exam Scores')

print(exam\_series)

**OUTPUT :**

**Output:**

**Alice 92**

**Bob 88**

**Charlie 76**

**David 94**

**Eve 82**

**Frank 90**

**Grace 85**

**Hannah 89**

**Ivy 78**

**Jack 91Name: Exam Scores, dtype: int64**

**2: Write a Pandas program to create and display a DataFrame from a specified dictionary data which has the index labels.**

**Sample Python dictionary data and list labels:**

**exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}**

**Output:**

**name score attempts qualify**

**0 Anastasia 12.5 1 yes**

**1 Dima 9.0 3 no**

**2 Katherine 16.5 2 yes**

**3 James NaN 3 no**

**4 Emily 9.0 2 no**

**5 Michael 20.0 3 yes**

**6 Matthew 14.5 1 yes**

**7 Laura NaN 1 no**

**8 Kevin 8.0 2 no**

**9 Jonas 19.0 1 yes**

**PROGRAM :**

import pandas as pd

import numpy as np

exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'],

             'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19],

             'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1],

             'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}

df = pd.DataFrame(exam\_data)

print(df)

**OUTPUT :**

**name score attempts qualify**

**0 Anastasia 12.5 1 yes**

**1 Dima 9.0 3 no**

**2 Katherine 16.5 2 yes**

**3 James NaN 3 no**

**4 Emily 9.0 2 no**

**5 Michael 20.0 3 yes**

**6 Matthew 14.5 1 yes**

**7 Laura NaN 1 no**

**8 Kevin 8.0 2 no**

**9 Jonas 19.0 1 yes**

**3: Write a Pandas program to get the first 3 rows of a given DataFrame.**

**Sample DataFrame:**

**exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}**

**Output:**

**name score attempts qualify**

**0 Anastasia 12.5 1 yes**

**1 Dima 9.0 3 no**

**2 Katherine 16.5 2 yes**

**PROGRAM :**

print(df.head(3))

**OUTPUT :**

name score attempts qualify

0 Anastasia 12.5 1 yes

1 Dima 9.0 3 no

2 Katherine 16.5 2 yes

**4: Write a Pandas program to select the 'name' and 'score' columns from the following DataFrame.**

**Sample Python dictionary data and list labels:**

**exam\_data = {'name': ['Anastasia', 'Dima', 'Katherine', 'James', 'Emily', 'Michael', 'Matthew', 'Laura', 'Kevin', 'Jonas'], 'score': [12.5, 9, 16.5, np.nan, 9, 20, 14.5, np.nan, 8, 19], 'attempts': [1, 3, 2, 3, 2, 3, 1, 1, 2, 1], 'qualify': ['yes', 'no', 'yes', 'no', 'no', 'yes', 'yes', 'no', 'no', 'yes']}**

**Output:**

**name score**

**0 Anastasia 12.5**

**1 Dima 9.0**

**2 Katherine 16.5**

**3 James NaN**

**4 Emily 9.0**

**5 Michael 20.0**

**6 Matthew 14.5**

**7 Laura NaN**

**8 Kevin 8.0**

**9 Jonas 19.0**

**PROGRAM :**

print(df[['name', 'score']])

**OUTPUT :**

name score

0 Anastasia 12.5

1 Dima 9.0

2 Katherine 16.5

3 James NaN

4 Emily 9.0

5 Michael 20.0

6 Matthew 14.5

7 Laura NaN

8 Kevin 8.0

9 Jonas 19.0