

Practical 1

1. Write Python code to create a Pandas DataFrame using any sequence data type.

a) Display the DataFrame.

b) Display first 5 records.

c) Display last 10 records.

d) Display the number of missing values in the dataset.

```
import pandas as pd
```

```
import numpy as np
```

```
# Creating a DataFrame using a list of dictionaries
```

```
data = [  
    {'Name': 'Alice', 'Age': 25, 'Marks': 85},  
    {'Name': 'Bob', 'Age': 24, 'Marks': 78},  
    {'Name': 'Charlie', 'Age': 23, 'Marks': np.nan}, # Missing value  
    {'Name': 'David', 'Age': np.nan, 'Marks': 92}, # Missing value  
    {'Name': 'Eva', 'Age': 21, 'Marks': 88},  
    {'Name': 'Frank', 'Age': 26, 'Marks': 75},  
    {'Name': 'Grace', 'Age': 22, 'Marks': 80},  
    {'Name': 'Helen', 'Age': 20, 'Marks': 82},  
    {'Name': 'Ian', 'Age': 23, 'Marks': 79},  
    {'Name': 'Jane', 'Age': 25, 'Marks': 90},  
    {'Name': 'Kevin', 'Age': np.nan, 'Marks': np.nan} # Missing values  
]
```

```
df = pd.DataFrame(data)
```

```
# a) Display the DataFrame
```

```
print("a) Entire DataFrame:")
```

```
print(df)
```

```
# b) Display first 5 records
```

```
print("\nb) First 5 records:")
```

```
print(df.head())
```

```
# c) Display last 10 records
```

```
print("\nc) Last 10 records:")
```

```
print(df.tail(10))
```

```
# d) Display number of missing values in the dataset
```

```
print("\nd) Number of missing values in each column:")  
print(df.isnull().sum())
```

Output

a) Entire DataFrame:

	Name	Age	Marks
0	Alice	25.0	85.0
1	Bob	24.0	78.0
2	Charlie	23.0	NaN
3	David	NaN	92.0
4	Eva	21.0	88.0
5	Frank	26.0	75.0
6	Grace	22.0	80.0
7	Helen	20.0	82.0
8	Ian	23.0	79.0
9	Jane	25.0	90.0
10	Kevin	NaN	NaN

b) First 5 records:

	Name	Age	Marks
0	Alice	25.0	85.0
1	Bob	24.0	78.0
2	Charlie	23.0	NaN
3	David	NaN	92.0
4	Eva	21.0	88.0

c) Last 10 records:

	Name	Age	Marks
1	Bob	24.0	78.0
2	Charlie	23.0	NaN
3	David	NaN	92.0
4	Eva	21.0	88.0
5	Frank	26.0	75.0
6	Grace	22.0	80.0
7	Helen	20.0	82.0
8	Ian	23.0	79.0
9	Jane	25.0	90.0
10	Kevin	NaN	NaN

d) Number of missing values in each column

```
Name    0  
Age      2  
Marks    2  
dtype: int64
```