PRACTICAL-4

ASSESS SUPERSTEP

1. REPLACING NAN VALUES WITH MEAN

```
import pandas as pd
import numpy as np

df = pd.DataFrame([[10, np.nan, 30, 40], [7, 14, 21, 28], [55, np.nan, 8, 12],
    [15, 14, np.nan, 8], [7, 1, 1, np.nan], [np.nan, 4, 9, 2]],
    columns=['Apple', 'Orange', 'Banana', 'Pear'],
    index=['Basket1', 'Basket2', 'Basket3', 'Basket4',
    'Basket5', 'Basket6'])
    print("THE ORIGINAL VALUES")
    print(df)
    print("REPLACING THE VALUES WITH MEAN")
    df.fillna(df.mean(),inplace=True)
    df
```

```
      Output:

      THE ORIGINAL VALUES

      Apple Orange Banana Pear

      Basket1 10.0 NaN 30.0 40.0

      Basket2 7.0 14.0 21.0 28.0

      Basket3 55.0 NaN 8.0 12.0

      Basket4 15.0 14.0 NaN 8.0

      Basket5 7.0 1.0 NaN 8.0

      Basket5 7.0 1.0 1.0 NaN 8.0

      Basket6 NaN 4.0 9.0 2.0

      REPLACING THE VALUES WITH MEAN
```

2.REPLACING NAN VALUES WITH MEDIAN

```
import pandas as pd
import numpy as np
df = pd.DataFrame([[10, np.nan, 30, 40], [7, 14, 21, 28], [55, np.nan, 8, 12],
[15, 14, np.nan, 8], [7, 1, 1, np.nan], [np.nan, 4, 9, 2]],
columns=['Apple', 'Orange', 'Banana', 'Pear'],
index=['Basket1', 'Basket2', 'Basket3', 'Basket4',
'Basket5', 'Basket6'])
print("THE ORIGINAL VALUES")
print(df)
print("REPLACING THE VALUES WITH MEAN")
df.fillna(df.median(),inplace=True)
df
```

```
Output:
THE ORIGINAL VALUES
     Apple Orange Banana Pear
Basket1
        10.0 NaN 30.0 40.0
Basket2 7.0 14.0
Basket3 55.0 NaN
Basket4 15.0 14.0
Basket2
                       21.0 28.0
                      8.0 12.0
                        NaN 8.0
Basket5
         7.0
                 1.0
                         1.0
                              NaN
Basket6 NaN
                      9.0
                               2.0
                 4.0
REPLACING THE VALUES WITH MEAN
```

PRACTICAL-4

3.REPLACING NAN VALUES WITH MODE

```
import pandas as pd import numpy as np df = pd.DataFrame([[10, np.nan, 30, 40], [7, 14, 21, 28], [55, np.nan, 8, 12], [15, 14, np.nan, 8], [7, 1, 1, np.nan], [np.nan, 4, 9, 2]], columns=['Apple', 'Orange', 'Banana', 'Pear'], index=['Basket1', 'Basket2', 'Basket3', 'Basket4', 'Basket5', 'Basket6']) print("THE ORIGINAL VALUES") print(df) print("REPLACING THE VALUES WITH MEAN") for column in df.columns: df[column].fillna(df[column].mode()[0], inplace=True) df
```

Output:

```
THE ORIGINAL VALUES
        Apple Orange Banana
                               Pear
         10.0
                        30.0 40.0
Basket1
                 NaN
         7.0
                 14.0
                         21.0
                               28.0
Basket2
Basket3
         55.0
                 NaN
                         8.0
                               12.0
Basket4
         15.0
                 14.0
                          NaN
                                8.0
Basket5
          7.0
                  1.0
                          1.0
                               NaN
                          9.0
                                2.0
Basket6
         NaN
                  4.0
REPLACING THE VALUES WITH MEAN
```

4.REPLACING NAN VALUES WITH MINIMUM

```
import pandas as pd
import numpy as np
df = pd.DataFrame([[10, np.nan, 30, 40], [7, 14, 21, 28], [55, np.nan, 8, 12],
[15, 14, np.nan, 8], [7, 1, 1, np.nan], [np.nan, 4, 9, 2]],
columns=['Apple', 'Orange', 'Banana', 'Pear'],
index=['Basket1', 'Basket2', 'Basket3', 'Basket4',
'Basket5', 'Basket6'])
print("THE ORIGINAL VALUES")
print(df)
print("REPLACING THE VALUES WITH MEAN")
df.fillna(df.min(),inplace=True)
df
```

Output:

THE ORIGINAL VALUES				
	Apple	Orange B	anana	Pear
Basket1	10.0	NaN	30.0	40.0
Basket2	7.0	14.0	21.0	28.0
Basket3	55.0	NaN	8.0	12.0
Basket4	15.0	14.0	NaN	8.0
Basket5	7.0	1.0	1.0	NaN
Basket6	NaN	4.0	9.0	2.0
REPLACING	THE	VALUES WIT	H MEAN	