ASSIGNMENT 3:

```python
import pandas as pd
import numpy as np

df = pd.read_csv("StudentsPerformance_20rows.csv")
df
```

	Math_Score	Reading_Score	Writing_Score	Placement_Score	Club_Join_Date
0	78	90.0	75	95.0	2019
1	62	84.0	62	88.0	2020
2	74	78.0	65	79.0	2018
3	69	87.0	72	92.0	2021
4	76	91.0	70	96.0	2019
5	65	NaN	68	85.0	2020
6	80	88.0	78	100.0	2021
7	64	95.0	77	81.0	2018
8	70	89.0	74	NaN	2019
9	77	84.0	79	94.0	2020
10	68	83.0	67	87.0	2021
11	75	86.0	70	NaN	2018
12	61	79.0	64	80.0	2019
13	79	NaN	77	98.0	2020
14	63	85.0	65	84.0	2021
15	72	NaN	76	91.0	2018
16	66	88.0	70	93.0	2019
17	73	87.0	74	89.0	2020
18	78	90.0	79	99.0	2021
19	60	81.0	63	82.0	

2018

```
     Placement_Offer_Count
0                         3
1                         2
2                         1
3                         3
4                         4
5                         2
6                         5
7                         2
8                         3
9                         4
10                        2
11                        4
12                        1
13                        5
14                        2
15                        3
16                        3
17                        2
18                        5
19                        1
```

Statistical Summary

```
# Mean of math score and placement score
print('Mean of Math Score:',df.loc[:,"Math_Score"].mean())
print('Mean of Placement Score:',df.loc[:,'Placement_Score'].mean())

Mean of Math Score: 70.5
Mean of Placement Score: 89.61111111111111

# mode of math score and placement score
print('mode of Math Score:',df.loc[:,"Math_Score"].mode())
print('mode of Placement Score:',df.loc[:,'Placement_Score'].mode())

mode of Math Score: 0     78
Name: Math_Score, dtype: int64
mode of Placement Score: 0        79.0
1        80.0
2        81.0
3        82.0
4        84.0
5        85.0
6        87.0
7        88.0
8        89.0
9        91.0
10       92.0
```

```
11      93.0
12      94.0
13      95.0
14      96.0
15      98.0
16      99.0
17     100.0
Name: Placement_Score, dtype: float64
```

```python
# median of math score and placement score
print('median of Math Score:',df.loc[:,"Math_Score"].median())
print('median of Placement
Score:',df.loc[:,'Placement_Score'].median())
```

```
median of Math Score: 71.0
median of Placement Score: 90.0
```

```python
# standard deviation of math score and placement score
print('standard deviation of Math
Score:',df.loc[:,"Math_Score"].std())
print('standard deviation of Placement
Score:',df.loc[:,'Placement_Score'].std())
```

```
standard deviation of Math Score: 6.565459858828987
standard deviation of Placement Score: 6.7487592662642015
```

```python
# Storing in array and finding max and min values
arr1 = np.array(df['Math_Score'])
arr2 = np.array(df['Placement_Score'])
print('Math Score',arr1)
print("Placement Score",arr2)
print('Maximum of Math Score is:',max(arr1))
print('Minimum of math score is:',min(arr1))
print('Maximum of Placement_Score is:',max(arr2))
print('Minimum of Placement_Score is:',min(arr2))
```

```
Math Score [78 62 74 69 76 65 80 64 70 77 68 75 61 79 63 72 66 73 78
60]
Placement Score [ 95.  88.  79.  92.  96.  85. 100.  81.  nan  94.
87.  nan  80.  98.
  84.  91.  93.  89.  99.  82.]
Maximum of Math Score is: 80
Minimum of math score is: 60
Maximum of Placement_Score is: 100.0
Minimum of Placement_Score is: 79.0
```

```python
#using describe()
df.describe()
```

	Math_Score	Reading_Score	Writing_Score	Placement_Score \
count	20.00000	17.000000	20.000000	18.000000

```
mean      70.50000      86.176471      71.250000       89.611111
std        6.56546       4.419209       5.627704        6.748759
min       60.00000      78.000000      62.000000       79.000000
25%       64.75000      84.000000      66.500000       84.250000
50%       71.00000      87.000000      71.000000       90.000000
75%       76.25000      89.000000      76.250000       94.750000
max       80.00000      95.000000      79.000000      100.000000

          Club_Join_Date   Placement_Offer_Count
count          20.000000               20.000000
mean         2019.500000                2.850000
std             1.147079                1.308877
min          2018.000000                1.000000
25%          2018.750000                2.000000
50%          2019.500000                3.000000
75%          2020.250000                4.000000
max          2021.000000                5.000000
```