

```
In [1]:  import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
```

```
In [3]:  cars_data=pd.read_csv("Q7.csv")
cars_data.head()
```

Out[3]:

| | Unnamed: 0 | Points | Score | Weigh |
|---|-------------------|--------|-------|-------|
| 0 | Mazda RX4 | 3.90 | 2.620 | 16.46 |
| 1 | Mazda RX4 Wag | 3.90 | 2.875 | 17.02 |
| 2 | Datsun 710 | 3.85 | 2.320 | 18.61 |
| 3 | Hornet 4 Drive | 3.08 | 3.215 | 19.44 |
| 4 | Hornet Sportabout | 3.15 | 3.440 | 17.02 |

```
In [4]:  # mean
cars_data.mean()
```

Out[4]: Points 3.596563
Score 3.217250
Weigh 17.848750
dtype: float64

```
In [5]:  #median
cars_data.median()
```

Out[5]: Points 3.695
Score 3.325
Weigh 17.710
dtype: float64

```
In [20]:  #Mode
for i in cars_data.columns[1:].values:
    print(i, ":\n",cars_data[i].mode(), "\n")
```

Points :
0 3.07
1 3.92
dtype: float64

Score :
0 3.44
dtype: float64

Weigh :
0 17.02
1 18.90
dtype: float64

```
In [21]:  #variance
cars_data.var()
```

Out[21]: Points 0.285881
Score 0.957379
Weigh 3.193166
dtype: float64

```
In [22]:  # Satndard Deviation
cars_data.std()
```

Out[22]: Points 0.534679
Score 0.978457
Weigh 1.786943
dtype: float64

```
In [24]: #Range
cars_data.describe()
```

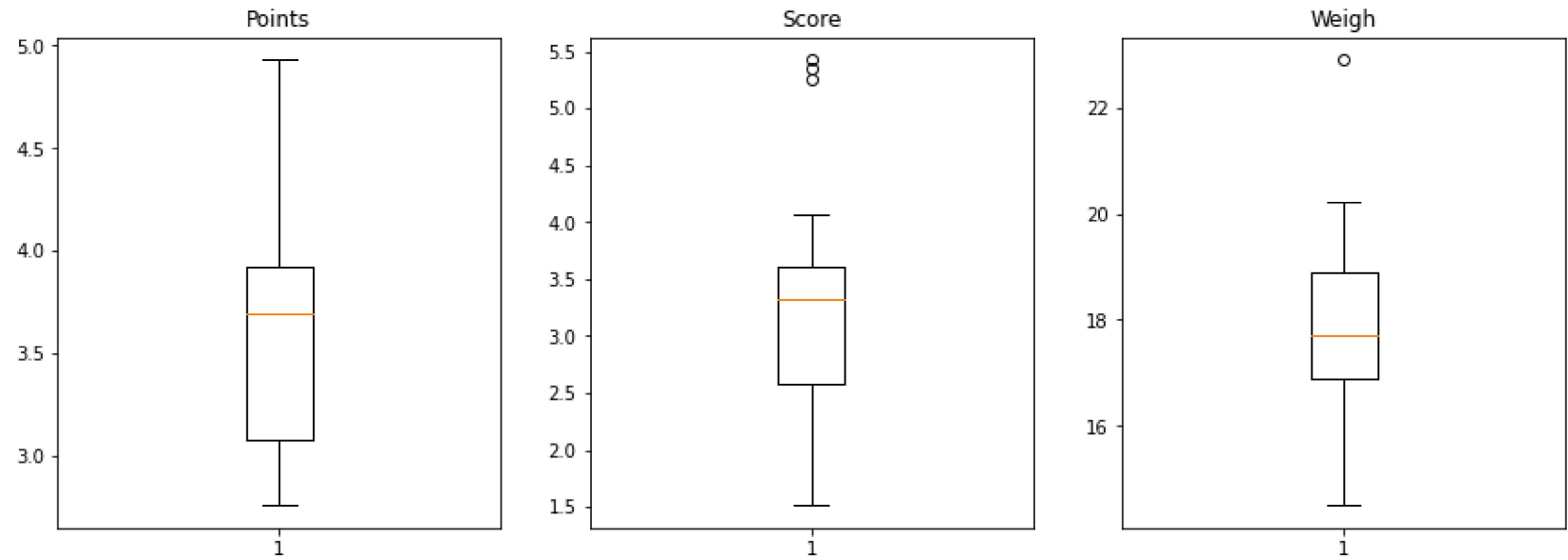
Out[24]:

| | Points | Score | Weigh |
|-------|-----------|-----------|-----------|
| count | 32.000000 | 32.000000 | 32.000000 |
| mean | 3.596563 | 3.217250 | 17.848750 |
| std | 0.534679 | 0.978457 | 1.786943 |
| min | 2.760000 | 1.513000 | 14.500000 |
| 25% | 3.080000 | 2.581250 | 16.892500 |
| 50% | 3.695000 | 3.325000 | 17.710000 |
| 75% | 3.920000 | 3.610000 | 18.900000 |
| max | 4.930000 | 5.424000 | 22.900000 |

```
In [27]: for i in cars_data.columns[1:].values:
    print("Range for feature ", i,": ", cars_data[i].max()-cars_data[i].min())
```

Range for feature Points : 2.17
Range for feature Score : 3.9110000000000005
Range for feature Weigh : 8.399999999999999

```
In [28]: f,ax=plt.subplots(figsize=(15,5))
plt.subplot(1,3,1)
plt.boxplot(cars_data.Points)
plt.title('Points')
plt.subplot(1,3,2)
plt.boxplot(cars_data.Score)
plt.title('Score')
plt.subplot(1,3,3)
plt.boxplot(cars_data.Weigh)
plt.title('Weigh')
plt.show()
```



Inferences:

For Points dataset:

- 1) The data is concentrated around Median
- 2) There are no outliars
- 3) The distribution is Right skewed

For Score dataset:

- 1) The data is concentrated around Median
- 2) There are 3 Outliars: 5.250, 5.424, 5.345
- 3) The distribution is Left skewed

For Weigh dataset:

- 1) The data is concentrated around Median
- 2) There is 1 Outliar: 22.90
- 3) The distribution is Left skewed

