Assignment-1-Q20 (Basic Statistics Level-1)

In [1]:
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
from scipy import stats
from scipy.stats import norm
```

In [2]:
```
cars = pd.read_csv("Cars.csv")
cars
```

Out[2]:

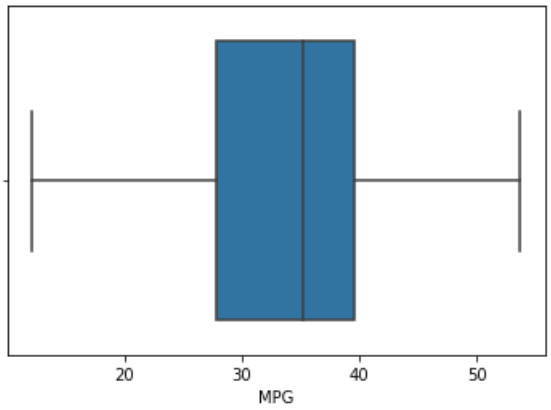
	HP	MPG	VOL	SP	WT
0	49	53.700681	89	104.185353	28.762059
1	55	50.013401	92	105.461264	30.466833
2	55	50.013401	92	105.461264	30.193597
3	70	45.696322	92	113.461264	30.632114
4	53	50.504232	92	104.461264	29.889149
...	...	...	...	...	...
76	322	36.900000	50	169.598513	16.132947
77	238	19.197888	115	150.576579	37.923113
78	263	34.000000	50	151.598513	15.769625
79	295	19.833733	119	167.944460	39.423099
80	236	12.101263	107	139.840817	34.948615

81 rows × 5 columns

In [3]:
```
sns.boxplot(cars.MPG)
```

```
C:\Users\HP\anaconda3\lib\site-packages\seaborn\_decorators.py:36: FutureWarning: Pass the following variable as a keyword arg: x. From version 0.12, th
e only valid positional argument will be `data`, and passing other arguments without an explicit keyword will result in an error or misinterpretation.
  warnings.warn(
```

Out[3]:<AxesSubplot:xlabel='MPG'>



In [4]:
```
# P(MPG>38)
1-stats.norm.cdf(38,cars.MPG.mean(),cars.MPG.std())
```

Out[4]:0.3475939251582705

In [5]:
```
# P(MPG<40)
stats.norm.cdf(40,cars.MPG.mean(),cars.MPG.std())
```

Out[5]:0.7293498762151616

In [6]:
```
# P (20
stats.norm.cdf(0.50,cars.MPG.mean(),cars.MPG.std())-stats.norm.cdf(0.20,cars.MPG.mean(),cars.MPG.std())
```

Out[6]:1.2430968797327613e-05

In [ ]: