Day-10 Assignment:

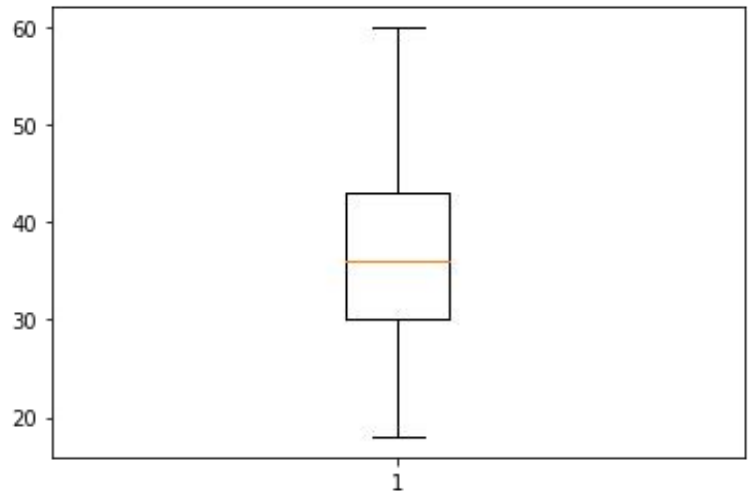
Hypothesis Statements:-

1) . Since most of the Employees are getting Monthly Income less than mean,it is one of the reasons for Attrition.(mode < mean) and (median < mean).

```
In [3]: dataset.MonthlyIncome.mean()

Out[3]: 65029.31292517007

In [5]: dataset.MonthlyIncome.median()

Out[5]: 49190.0

In [6]: dataset.MonthlyIncome.mode()

Out[6]: 0    23420
        dtype: int64
```

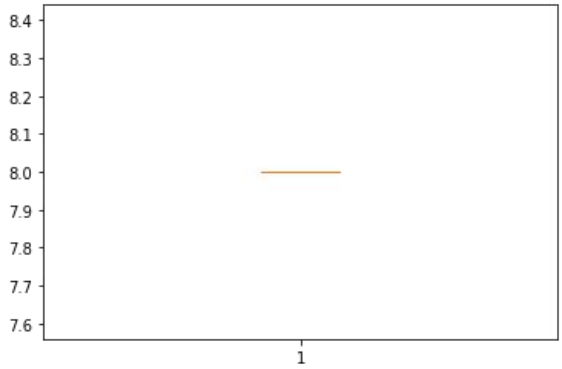
Here mean is greater than mode and median.

2) **. Since Age is normally distributed it is not the reason for Attrition.**



We can see that Age is almost Normally Distributed.

3) . **Since Every employee work for same Standard hours, it is not the reason for Attrition.**



4) . The Average Age of Employees who are working in the company is 36.

```
In [4]: dataset.Age.mean()
Out[4]: 36.923809523809524
```

5) . Since Average years since Last Promotion is 2.18 ,it is one of the reasons for Attrition.

```
In [5]: dataset.YearsSinceLastPromotion.mean()
Out[5]: 2.1877551020408164
```

6) . **Employees who are in Job level 2 get an average monthly income of 65000.**

```
In [11]: dataset.JobLevel.mean()
Out[11]: 2.0639455782312925
```

```
In [10]: dataset.MonthlyIncome.mean()
Out[10]: 65029.31292517007
```

7) . Employees who are in Job level 5 get a Salary Hike of 25%

```
In [13]: dataset.JobLevel.max()
Out[13]: 5

In [14]: dataset.PercentSalaryHike.max()
Out[14]: 25
```

8) . Employees who Education level 3 get a average Salary hike of 15%.

```
In [16]: dataset.Education.mean()
Out[16]: 2.912925170068027

In [15]: dataset.PercentSalaryHike.mean()
Out[15]: 15.209523809523809
```

9) . Attrition rate of male employees are greater than attrition rate of female employees.

```
In [19]: male = 0
         female = 0
         for i in dataset.Gender:
             if i == 'Male':
                 male += 1
             else:
                 female += 1
         print('No. of Male employees =',male)
         print('No. of Female employees = ',female)

         No. of Male employees = 2646
         No. of Female employees =  1764
```

10) . Employees who do not Business Travel are not undergoing attrition since there number is less.

In [22]:
```
TRarely = 0
TFrequently= 0
Nt = 0
for i in dataset.BusinessTravel:
    if i == 'Travel_Rarely':
        TRarely += 1
    elif i == 'Travel_Frequently':
        TFrequently += 1
    else:
        Nt += 1
print('No. of employees who travel Frequently =',TFrequently)
print('No. of employees who Travel rarely = ',TRarely)
print('No. of employees who dont Travel = ',Nt)
```

```
No. of employees who travel Frequently = 831
No. of employees who Travel rarely =  3129
No. of employees who dont Travel =  450
```