In [1]:

```
import warnings
warnings.filterwarnings("ignore")
```

In [14]:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
```

In [18]:

```
df = pd.read_csv('/content/Sales_Data.csv')
df.isnull().sum()
```

Out[18]:

```
Month    0
Qty      2
dtype: int64
```

In [19]:

```
df['Qty'] = df['Qty'].fillna(df['Qty'].median())
df.head(3)
```

Out[19]:

	Month	Qty
0	**Jan-21**	**25.0**
1	**Feb-21**	**25.0**
2	**Mar-21**	**33.0**

In [20]:

```
from statsmodels.stats.stattools import durbin_watson
```

In [22]:

```
dw_stat = durbin_watson(df.Qty)
print('Durbin-Watson statistic =',dw_stat)
```

```
Durbin-Watson statistic = 0.11923030811653279
```

Since 0 < Durbin-Watson statistic < 1.5, hence the data is positively autocorrelated, and hence fit for Time Series Analysis

- **For 0.0 < DW statistic < 1.5 ... Positive autocorrelation**
- **For 1.5 < DW statistic < 2.5 ... Inconclusive**
- **For 2.5 > DW statistic > 4.0 ... Negative autocorrelation**

In [ ]:

```

```