In [1]:
```
import pandas as pd
```

In [2]:
```
df = pd.read_csv('C:\\Users\\Apeh\\Desktop\\CODE\\DATASET\\sample.csv')
df
```

Out[2]:

| | Id | Name | Marks | Percentage |
|---|---|---|---|---|
| **0** | 1 | Alex | 78.0 | 78.0 |
| **1** | 2 | Alex | 23.0 | NaN |
| **2** | 3 | Alex | NaN | 67.0 |
| **3** | 4 | Alex | 12.0 | NaN |
| **4** | 5 | Alex | NaN | NaN |
| **5** | 6 | Alex | 54.0 | NaN |
| **6** | 7 | Alex | 65.0 | 66.0 |

In [5]:
```
# CHECK THE MISSING DATA
df.isnull().sum()
```

Out[5]:
```
Id            0
Name          0
Marks         0
Percentage    4
dtype: int64
```

In [6]:
```
# USING FOWARD FILL METHOD
df['Marks'].fillna(method='ffill',inplace=True)
df
```

Out[6]:

| | Id | Name | Marks | Percentage |
|---|---|---|---|---|
| **0** | 1 | Alex | 78.0 | 78.0 |
| **1** | 2 | Alex | 23.0 | NaN |
| **2** | 3 | Alex | 23.0 | 67.0 |
| **3** | 4 | Alex | 12.0 | NaN |
| **4** | 5 | Alex | 12.0 | NaN |
| **5** | 6 | Alex | 54.0 | NaN |
| **6** | 7 | Alex | 65.0 | 66.0 |

In [7]:
```
# BACKWARD FILL METHOS
df['Percentage'].fillna(method='bfill',inplace=True)
df
```

Out[7]:

| | Id | Name | Marks | Percentage |
|---|---|---|---|---|

| | Id | Name | Marks | Percentage |
|---|---|---|---|---|
| **0** | 1 | Alex | 78.0 | 78.0 |
| **1** | 2 | Alex | 23.0 | 67.0 |
| **2** | 3 | Alex | 23.0 | 67.0 |
| **3** | 4 | Alex | 12.0 | 66.0 |
| **4** | 5 | Alex | 12.0 | 66.0 |
| **5** | 6 | Alex | 54.0 | 66.0 |
| **6** | 7 | Alex | 65.0 | 66.0 |

In [8]:
```
# CHECK MISSING VAL AFTER CLEANING
df.isnull().sum()
```

Out[8]:
```
Id            0
Name          0
Marks         0
Percentage    0
dtype: int64
```

In [9]:
```
# OPTION : MEAN METHOD
df1 = pd.read_csv('C:\\Users\\Apeh\\Desktop\\CODE\\DATASET\\sample.csv')
df1
```

Out[9]:

| | Id | Name | Marks | Percentage |
|---|---|---|---|---|
| **0** | 1 | Alex | 78.0 | 78.0 |
| **1** | 2 | Alex | 23.0 | NaN |
| **2** | 3 | Alex | NaN | 67.0 |
| **3** | 4 | Alex | 12.0 | NaN |
| **4** | 5 | Alex | NaN | NaN |
| **5** | 6 | Alex | 54.0 | NaN |
| **6** | 7 | Alex | 65.0 | 66.0 |

In [10]:
```
per_mean = df1['Percentage'].mean()
per_mean
```

Out[10]:
```
70.33333333333333
```

In [11]:
```
df1['Percentage'].fillna(value=per_mean,inplace = True)
df1
```

Out[11]:

| | Id | Name | Marks | Percentage |
|---|---|---|---|---|
| **0** | 1 | Alex | 78.0 | 78.000000 |

| | Id | Name | Marks | Percentage |
|---|---|---|---|---|
| **1** | 2 | Alex | 23.0 | 70.333333 |
| **2** | 3 | Alex | NaN | 67.000000 |
| **3** | 4 | Alex | 12.0 | 70.333333 |
| **4** | 5 | Alex | NaN | 70.333333 |
| **5** | 6 | Alex | 54.0 | 70.333333 |
| **6** | 7 | Alex | 65.0 | 66.000000 |