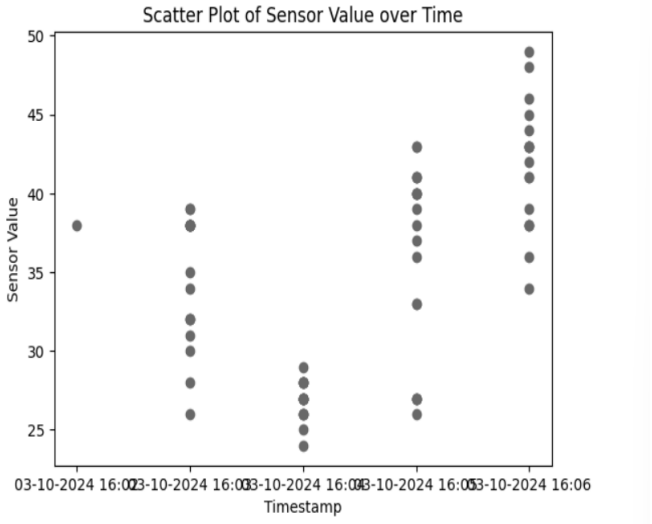
## EX 9 : Analyse the insight of sensor data visually

```
import pandas as pd
import matplotlib.pyplot as plt
df = pd.read_csv("C:/Users/admin/Downloads/IOT LAB/sensor_data.csv")
```

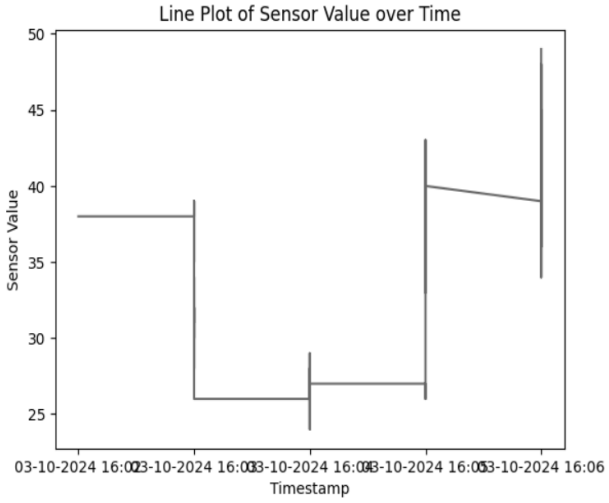
### 1. Scatter Plot

```
plt.scatter(df['timestamp'], df['sensorvalue'])
plt.xlabel('Timestamp')
plt.ylabel('Sensor Value')
plt.title('Scatter Plot of Sensor Value over Time')
plt.show()
```



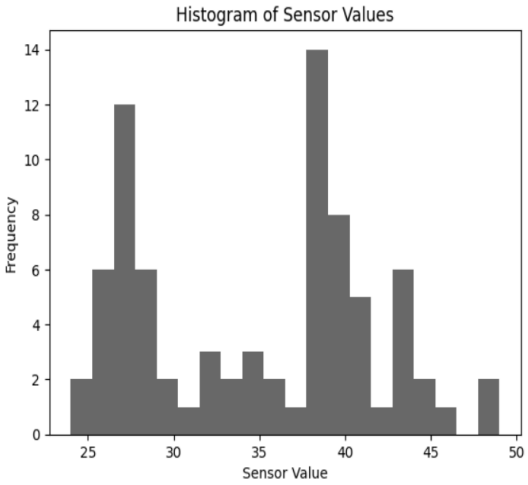

### 2. Line Plot

```
plt.plot(df['timestamp'], df['sensorvalue'])
plt.xlabel('Timestamp')
plt.ylabel('Sensor Value')
plt.title('Line Plot of Sensor Value over Time')
plt.show()
```



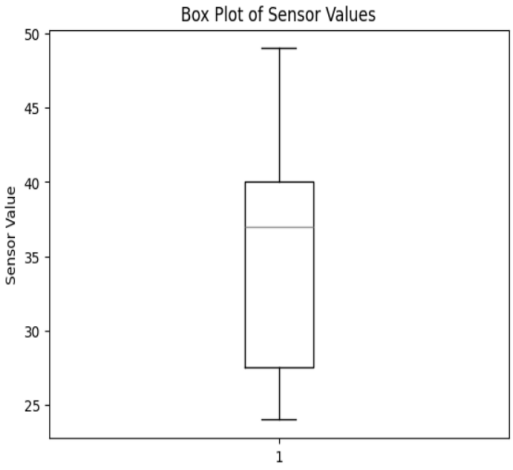
**3. Histogram**

```
plt.hist(df['sensorvalue'], bins=20)
plt.xlabel('Sensor Value')
plt.ylabel('Frequency')
plt.title('Histogram of Sensor Values')
plt.show()
```




**4. Box Plot**

```
plt.boxplot(df['sensorvalue'])
plt.ylabel('Sensor Value')
plt.title('Box Plot of Sensor Values')
plt.show()
```




**5. Bar Plot**

```
plt.bar(df['id'], df['sensorvalue'])
plt.xlabel('ID')
plt.ylabel('Sensor Value')
plt.title('Bar Plot of Sensor Value by ID')
plt.show()
```