

**Experiment 6**

**Date: 04.09.2025**

### **6. Experiment to understand EDA-Quantitative and Qualitative analysis.**

#### **Aim:**

To conduct an experiment to understand EDA- Quantitative and Qualitative Analysis

#### **Description:**

To understand importance of EDA Analysis

#### **Algorithm:**

*Step 1:* Identify Quantitative and Qualitative Features

*Step 2:* Perform Summary Statistics and Distribution Analysis

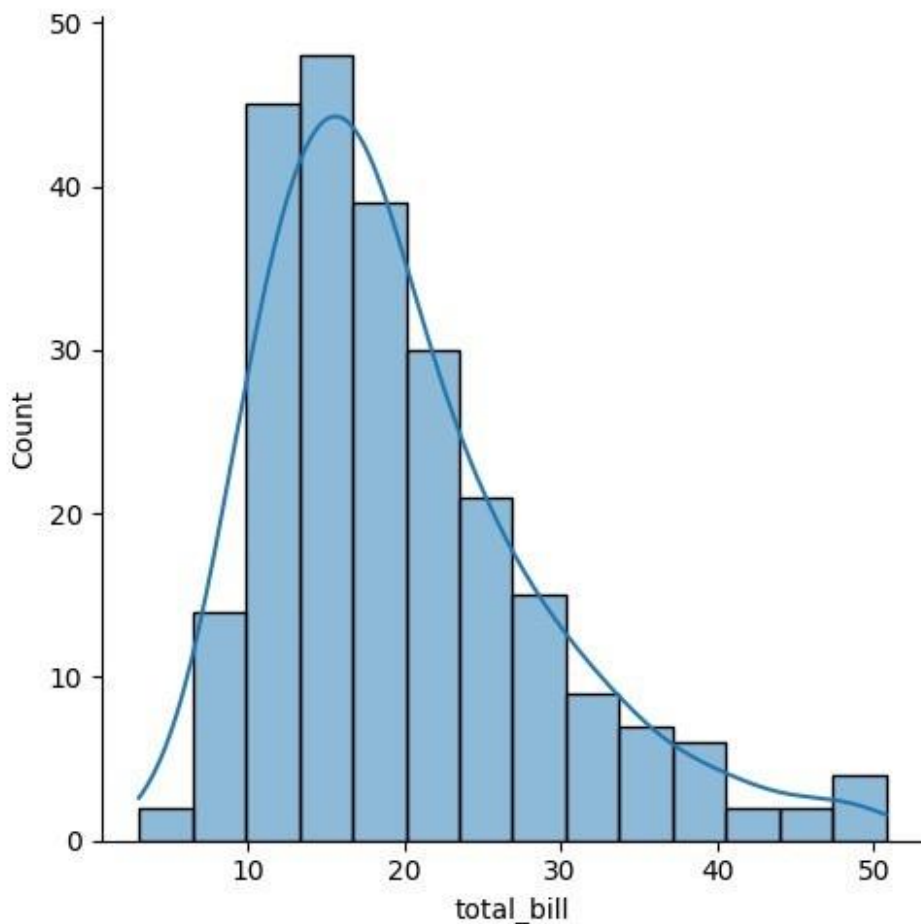
*Step 3:* Visualize Quantitative Data (Histograms, Box Plots, Correlation)

*Step 4:* Visualize Qualitative Data (Bar Charts, Pie Charts, Frequency Tables)

*Step 5:* Interpret Patterns, Relationships, and Anomalies

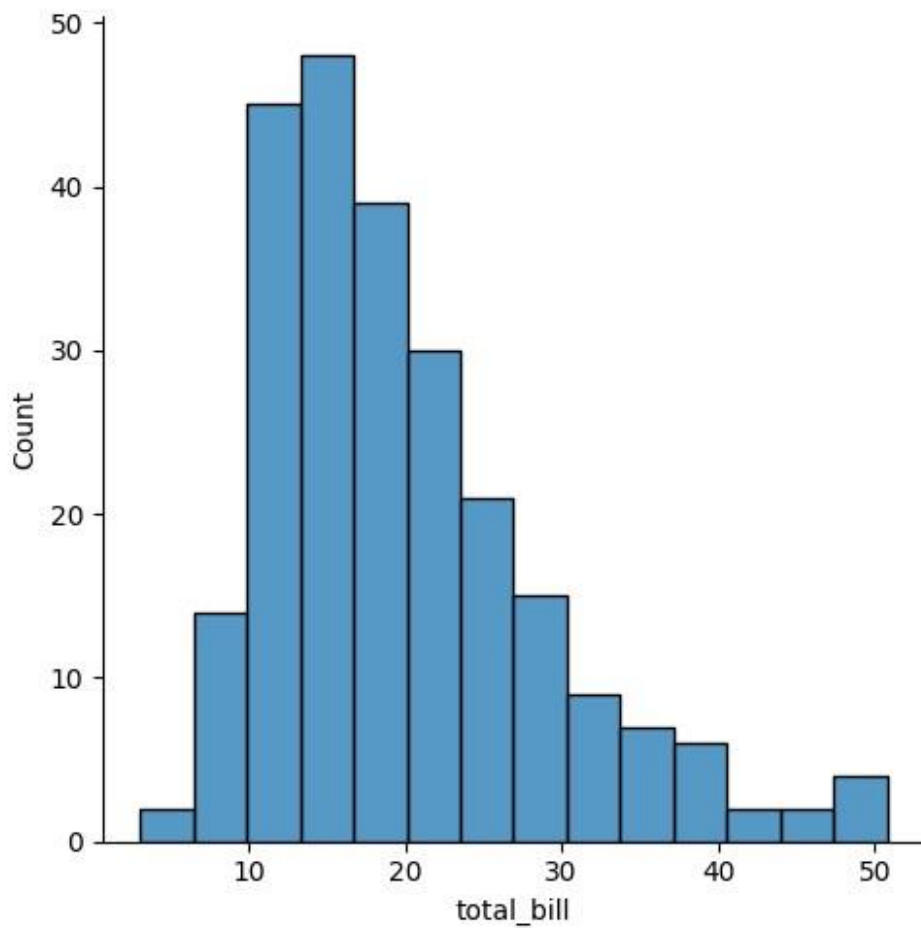
## Code With Output:

```
import seaborn as sns
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
%matplotlib inline
tips=sns.load_dataset('tips')
tips.head()
  total_bill  tip  sex  smoker  day  time
size 0      16.99 1.01 Female    No  Sun
Dinner  2
1      10.34  1.66  Male     No  Sun  Dinner
3
2      21.01  3.50  Male     No  Sun  Dinner
3
3      23.68  3.31  Male     No  Sun  Dinner
2
4      24.59  3.61 Female    No  Sun  Dinner
4
sns.displot(tips.total_bill,kde=True)
<seaborn.axisgrid.FacetGrid at 0x15b17dfb770>
```



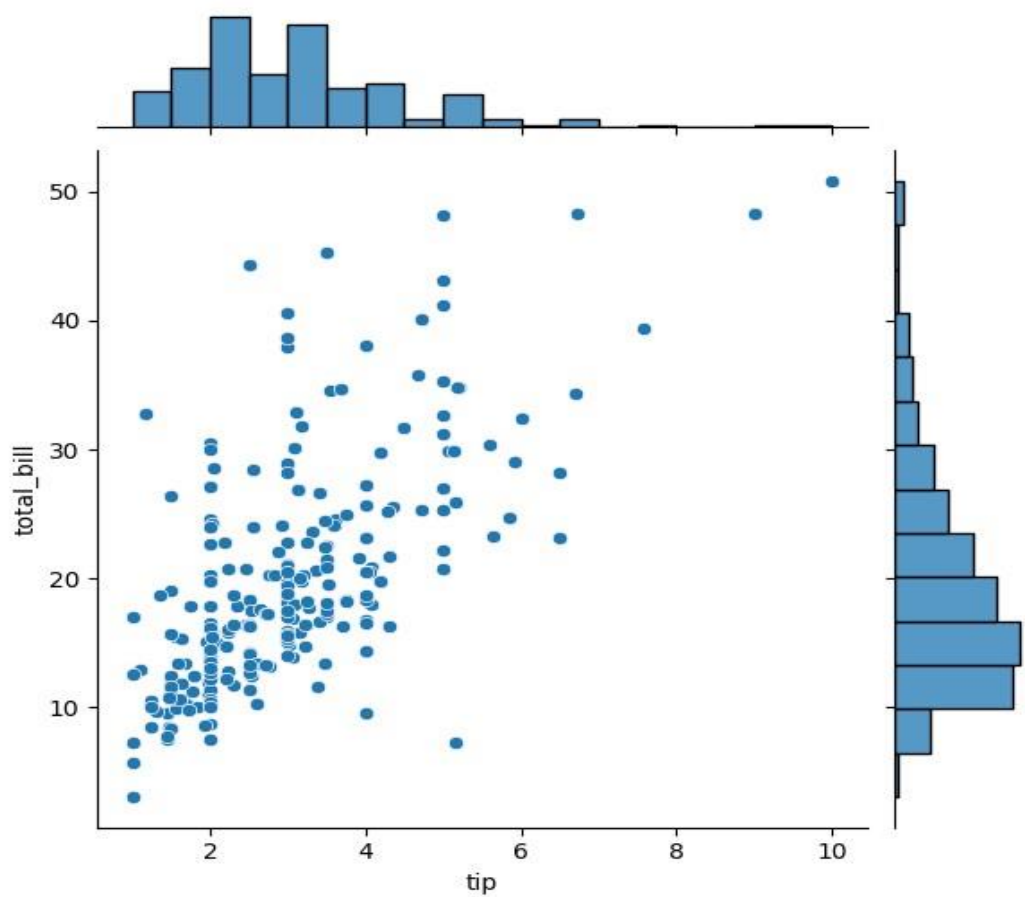
```
sns.displot(tips.total_bill,kde=False)
```

```
<seaborn.axisgrid.FacetGrid at 0x15b17fb2350>
```



```
sns.jointplot(x=tips.tip,y=tips.total_bill)
```

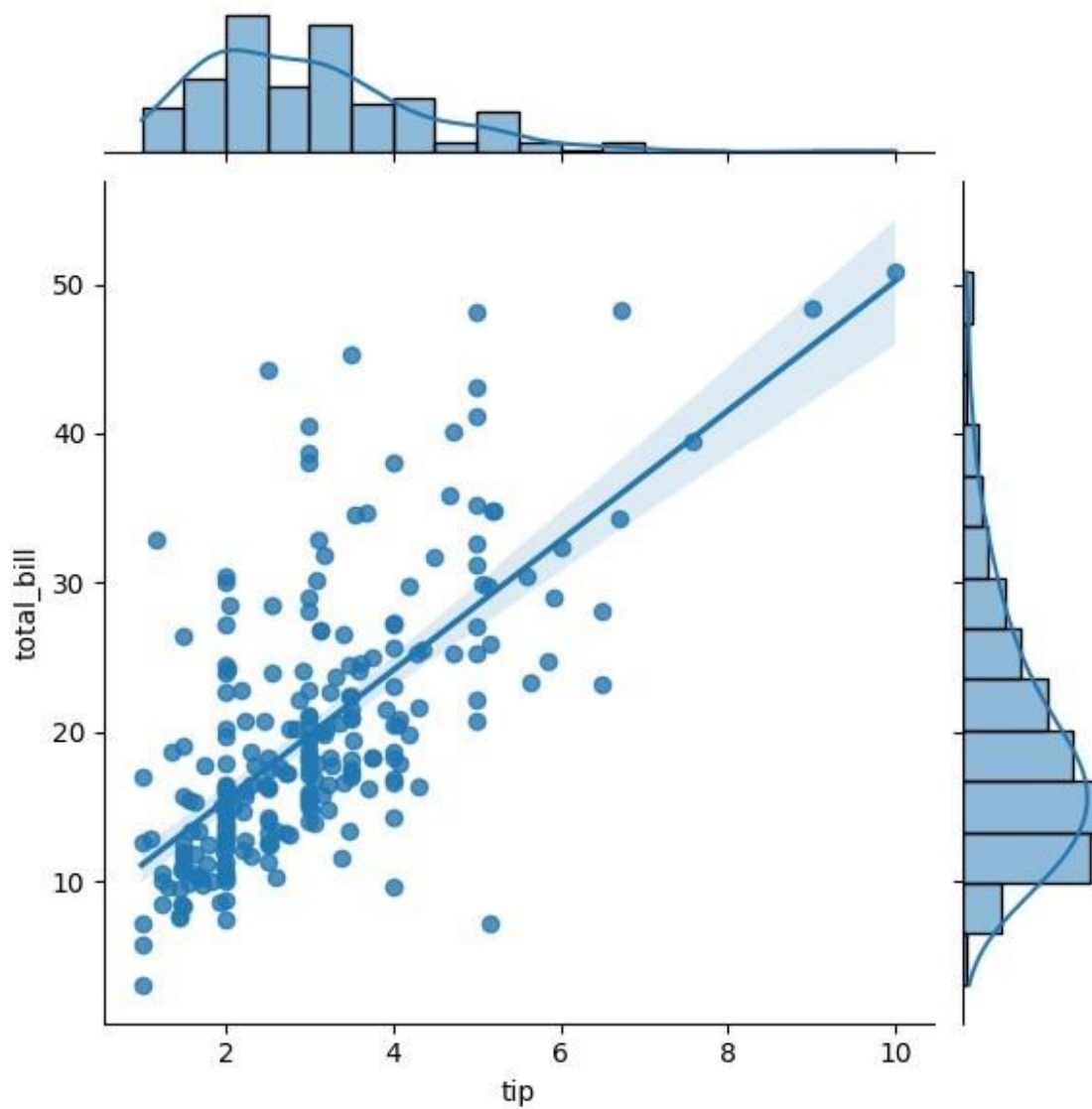
```
<seaborn.axisgrid.JointGrid at 0x15b1
```



7dfb620>

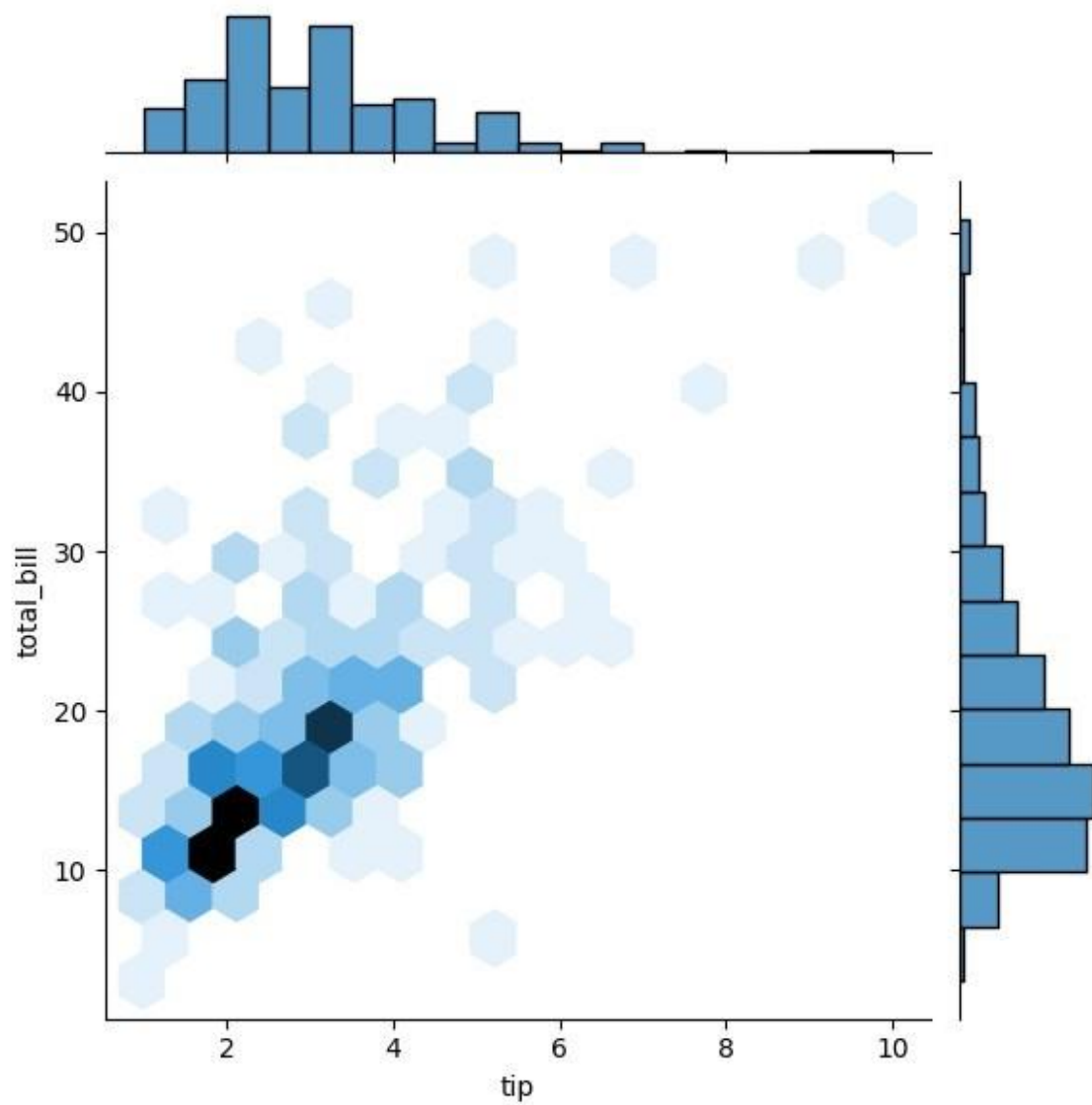
```
sns.jointplot(x=tips.tip,y=tips.total_bill,kind="reg")
```

```
<seaborn.axisgrid.JointGrid at 0x15b1d1a7110>
```

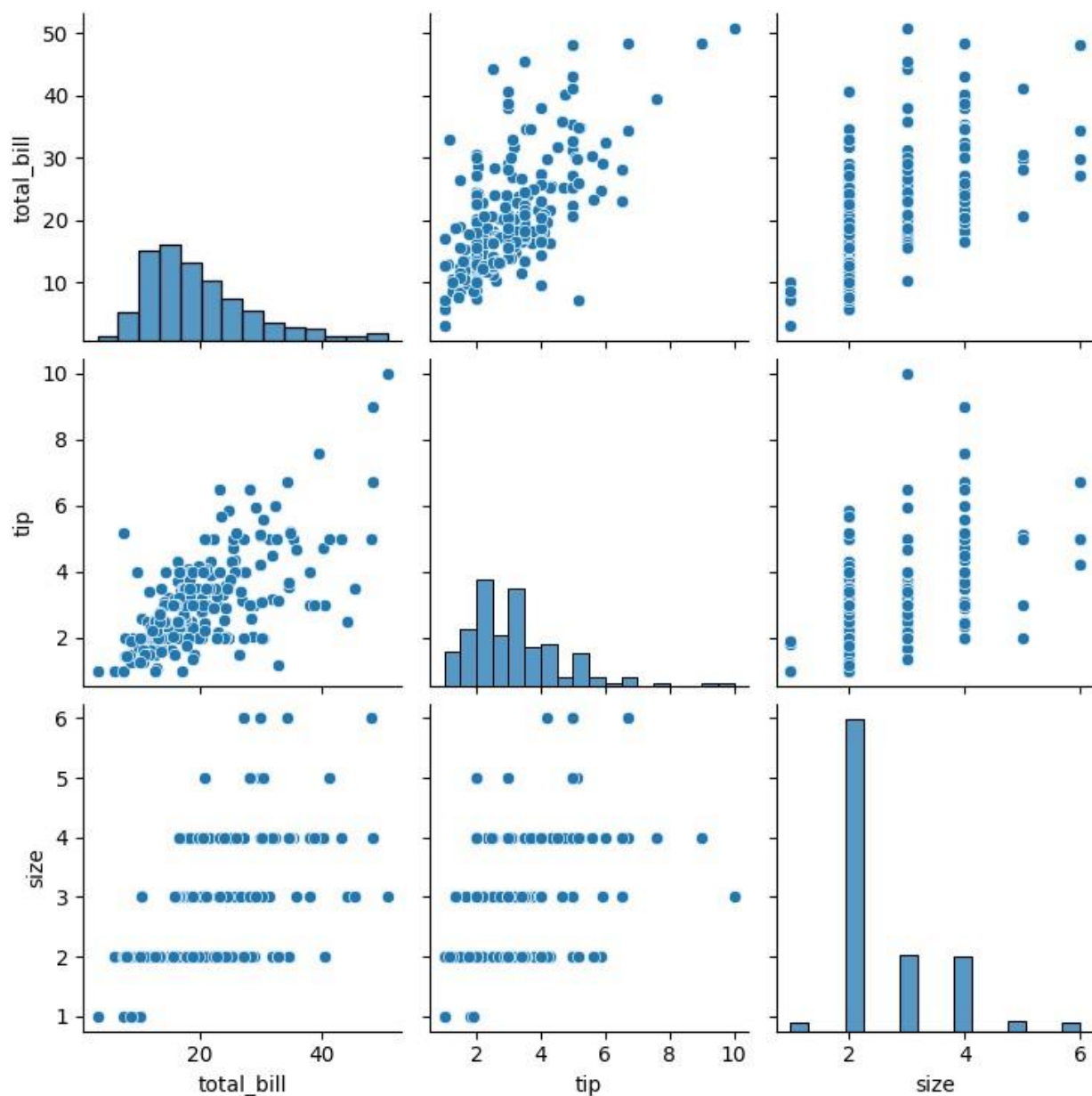


```
sns.jointplot(x=tips.tip,y=tips.total_bill,kind="hex")
```

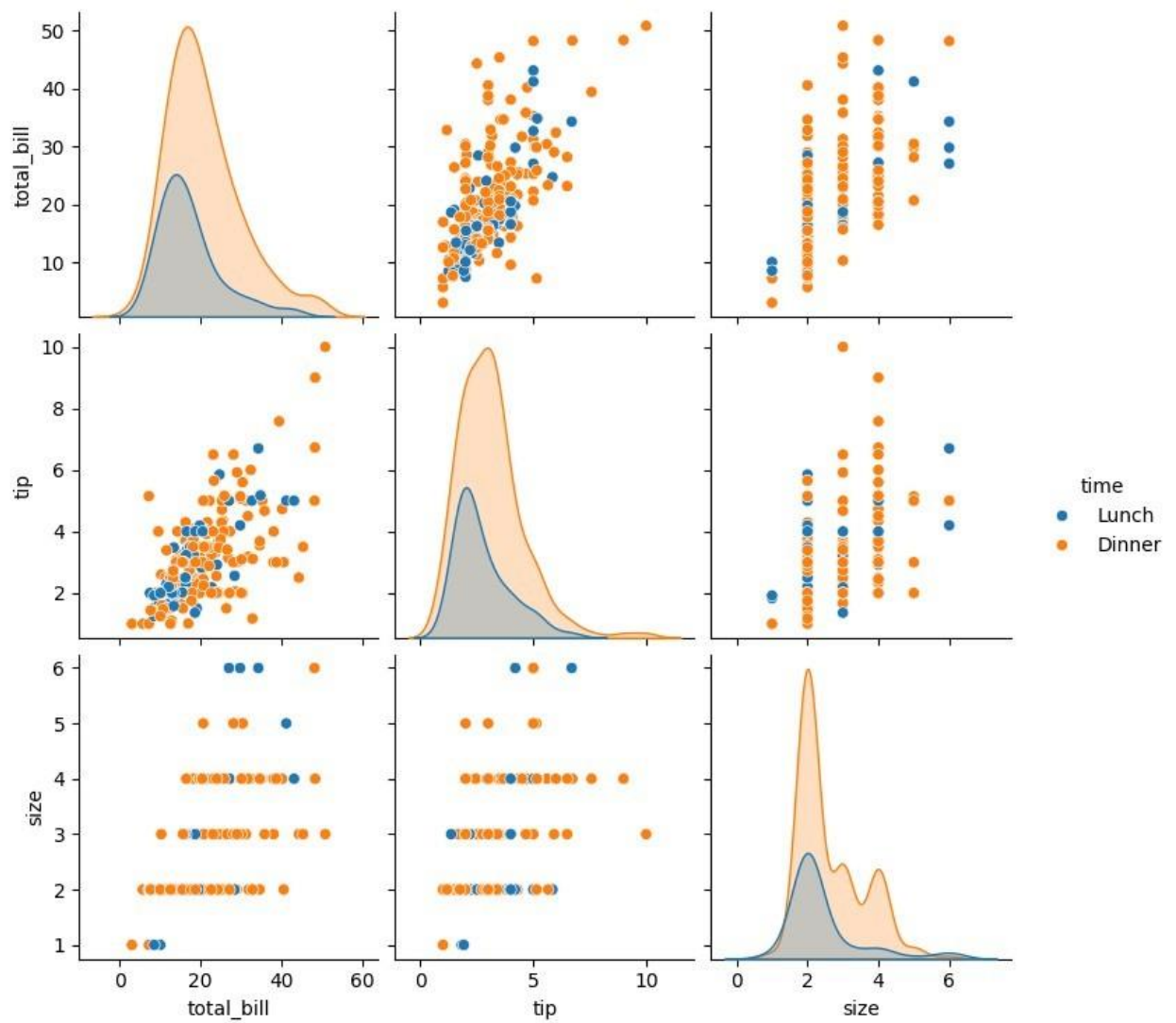
```
<seaborn.axisgrid.JointGrid at 0x15b1d318910>
```



```
sns.pairplot(tips) <seaborn.axisgrid.PairGrid at  
0x15b17f07cb0>
```

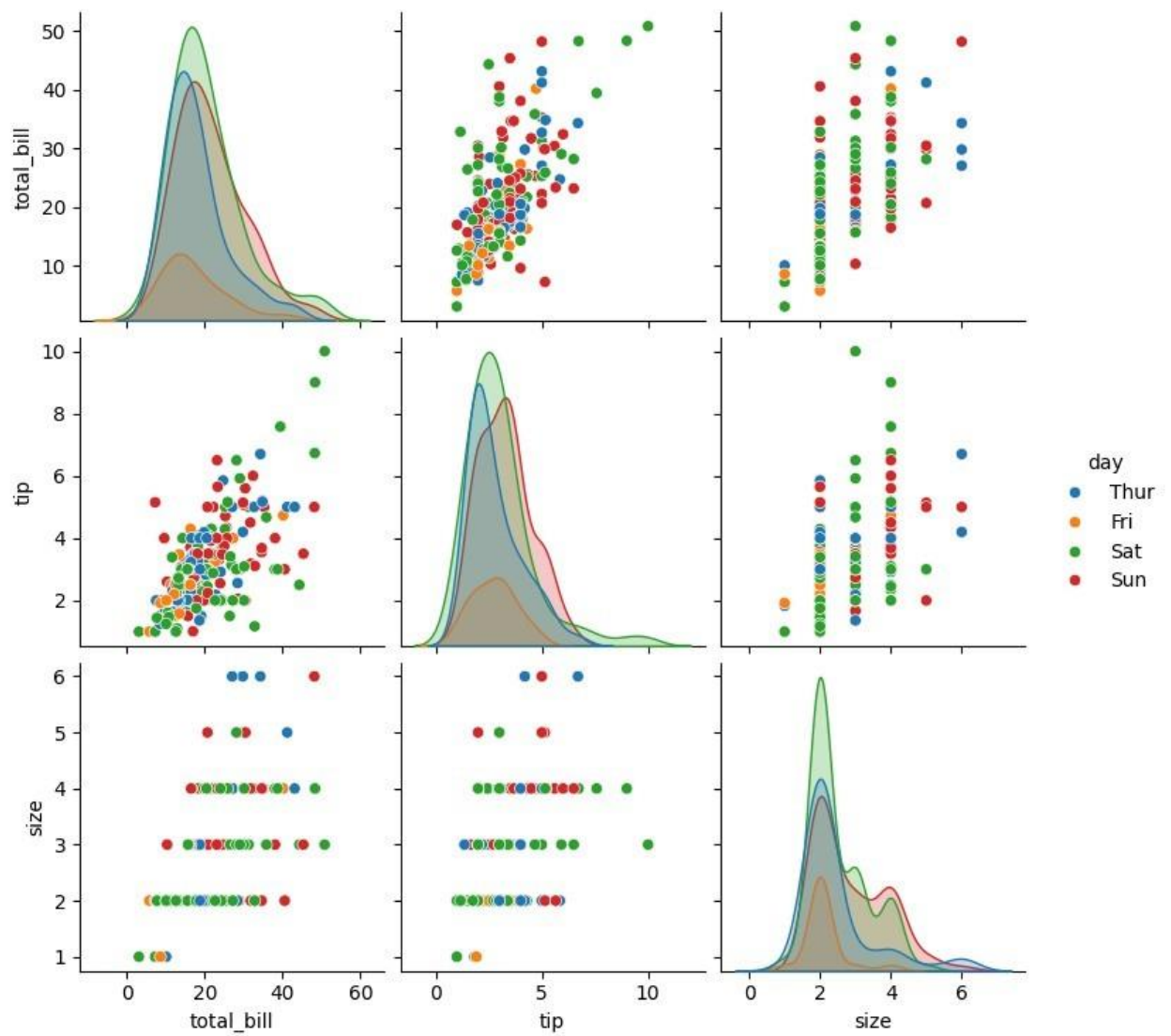


```
tips.time.value_counts()
time
Dinner    176
Lunch      68
Name:     count,    dtype:
int64
sns.pairplot(tips,hue='time')
<seaborn.axisgrid.PairGrid at 0x15b1d93c2d0>
```



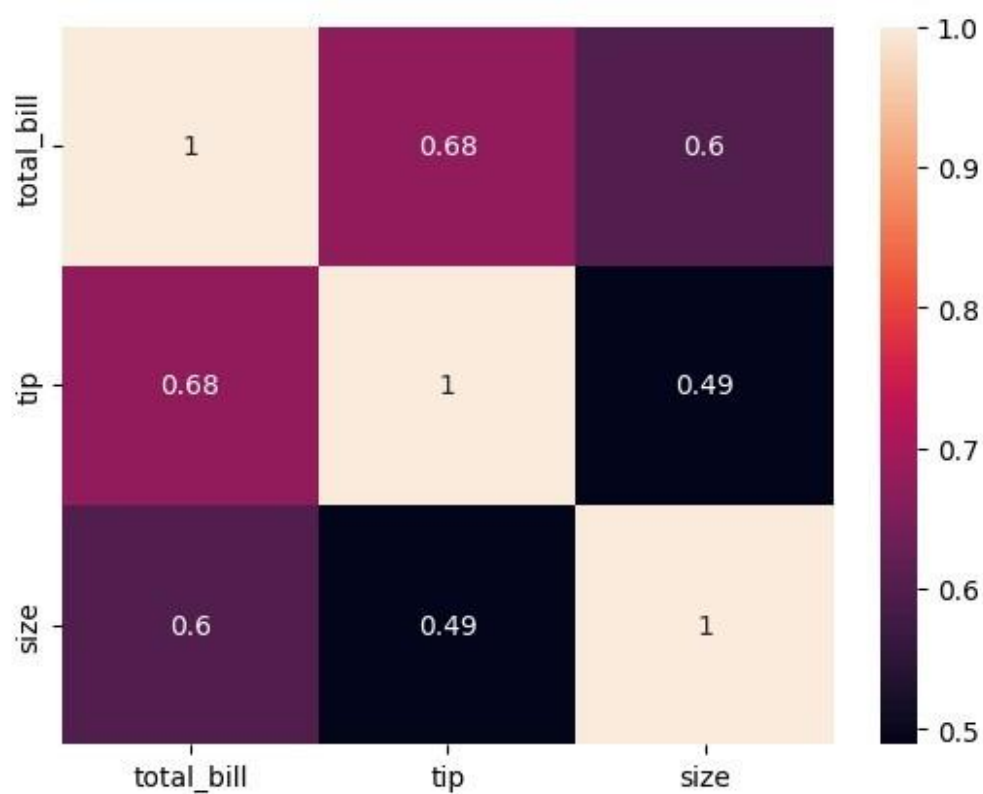
```
sns.pairplot(tips, hue='day')
```

```
<seaborn.axisgrid.PairGrid at 0x15b1dda07d0>
```



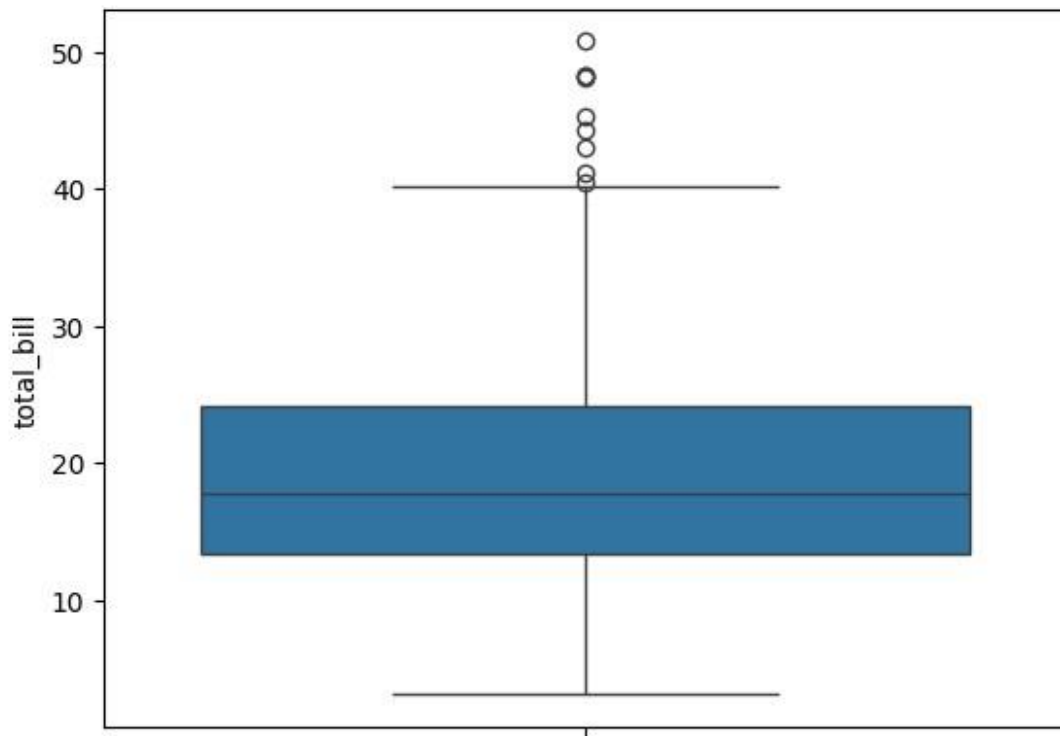
```
sns.heatmap(tips.corr(numeric_only=True), annot=True)
```

<Axes: >

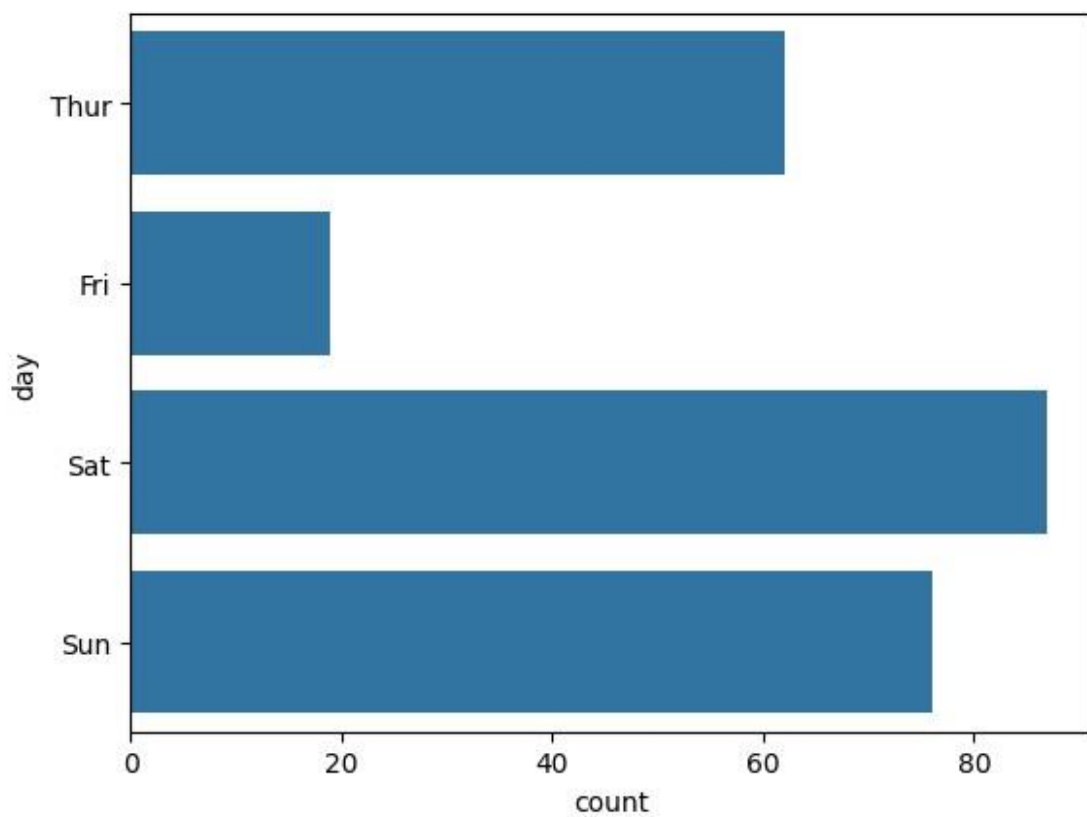




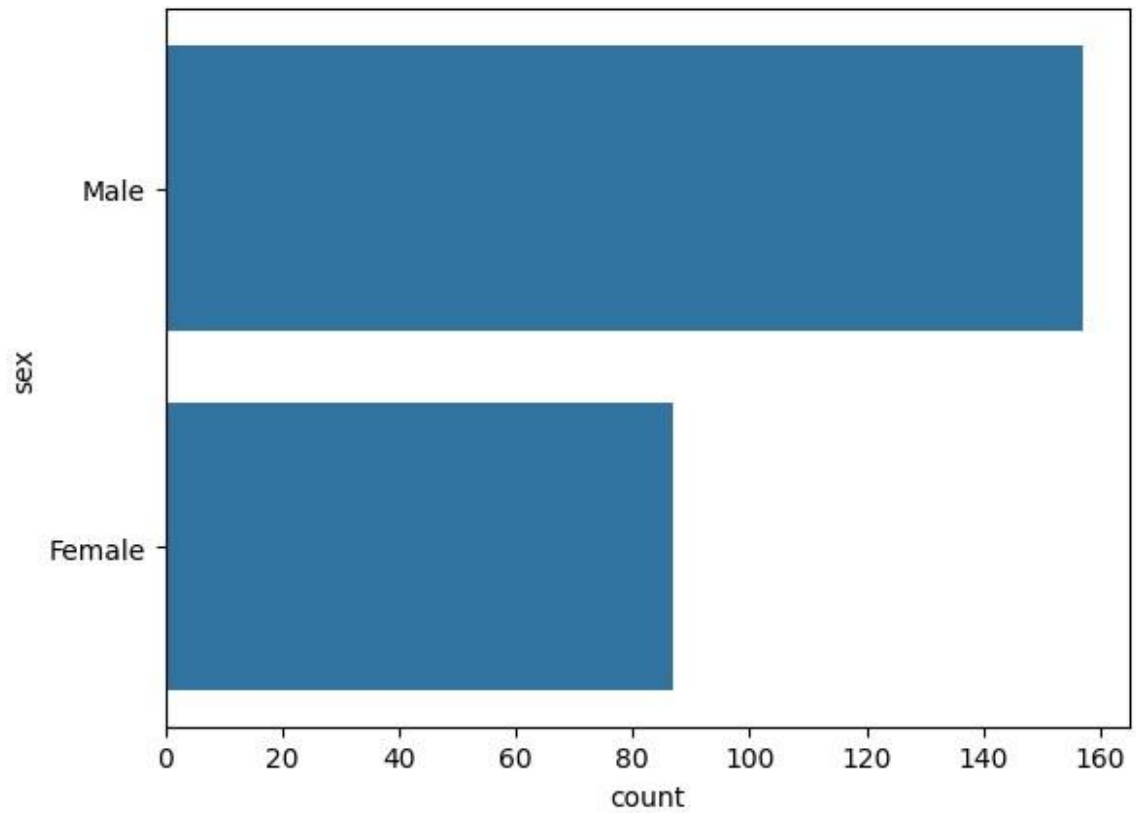
```
sns.boxplot(tips.total_bill) <Axes:
ylabel='total_bill'> sns.countplot(tips.day)
```



```
<Axes: xlabel='count', ylabel='day'>
```

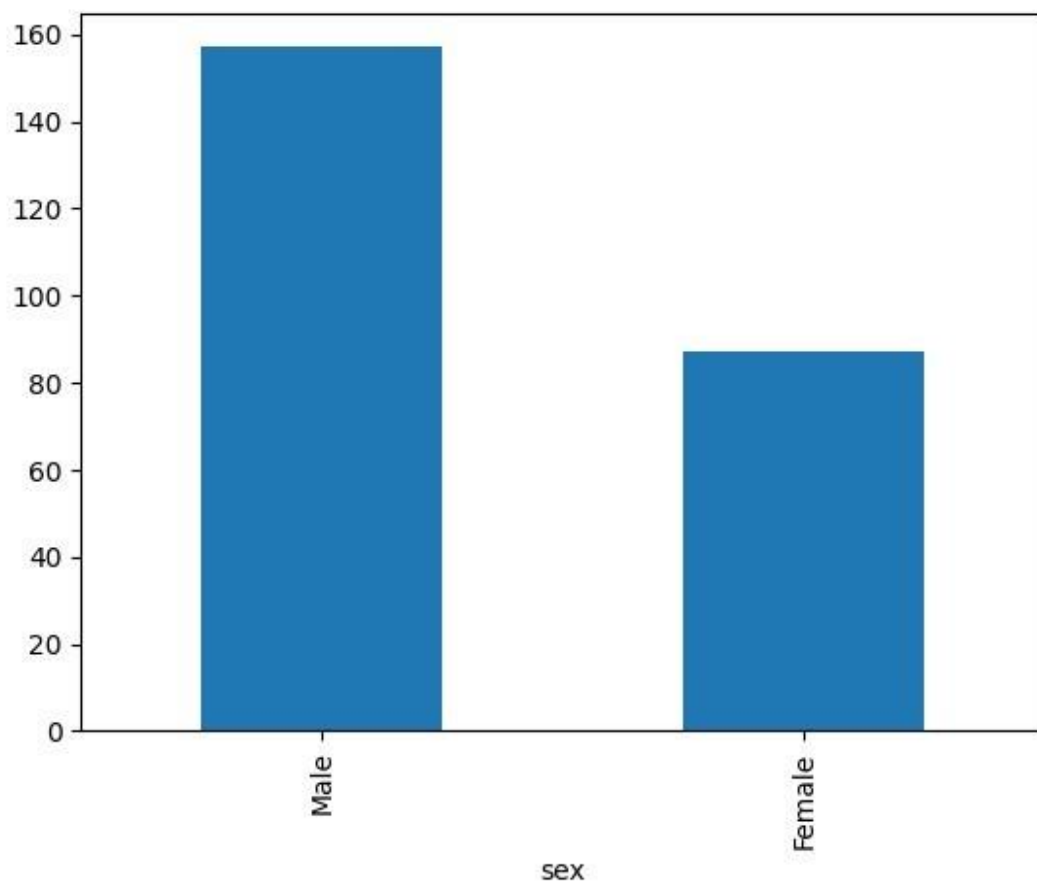


```
sns.countplot(tips.sex) <Axes: xlabel='count',
ylabel='sex'>
```



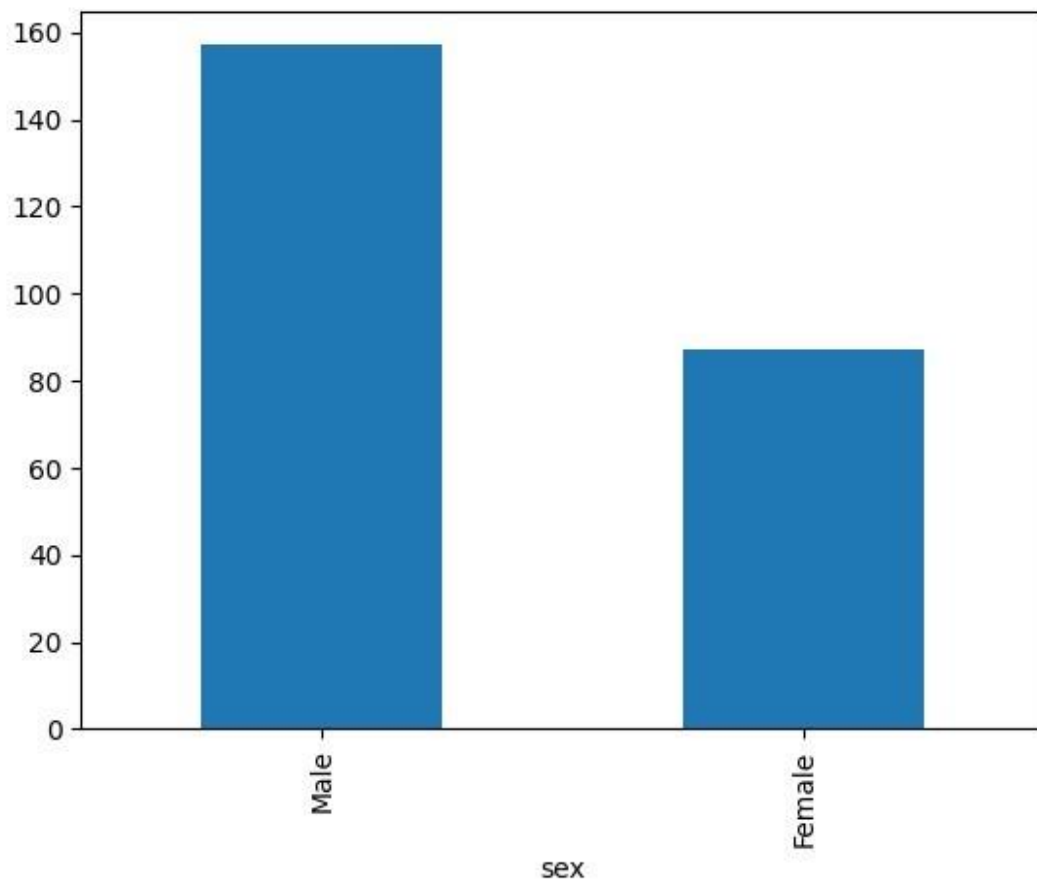
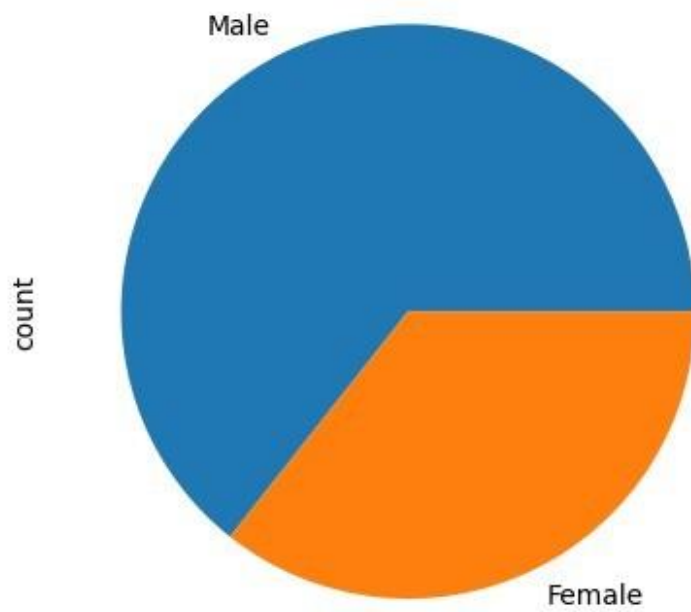
```
tips.sex.value_counts().plot(kind='bar')
```

```
<Axes: xlabel='sex'>
```

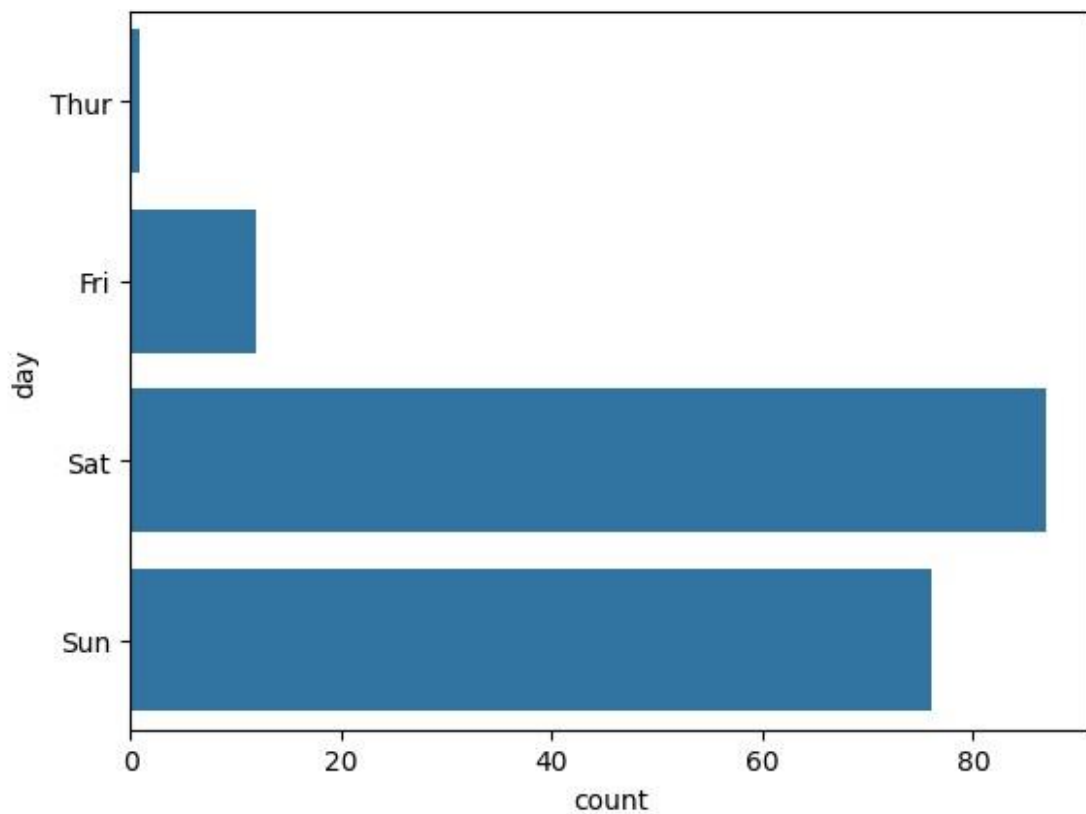


```
tips.sex.value_counts().plot(kind='pie')
```

```
<Axes: ylabel='count'> tips.sex.value_counts().plot(kind='bar')  
<Axes: xlabel='sex'>
```



```
sns.countplot(tips[tips.time=='Dinner']['day'])  
<Axes: xlabel='count', ylabel='day'>
```



## Result:

Thus Python Program to understand EDSA -Analysis was executed Successfully