In [1]:

```python
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

In [2]:

```python
print(sns.__version__)
```

0.12.2

In [3]:

```python
print(sns.get_dataset_names())
```

['anagrams', 'anscombe', 'attention', 'brain_networks', 'car_crashes', 'di
amonds', 'dots', 'dowjones', 'exercise', 'flights', 'fmri', 'geyser', 'glu
e', 'healthexp', 'iris', 'mpg', 'penguins', 'planets', 'seaice', 'taxis',
'tips', 'titanic']

In [4]:

```python
# df = pd.read_csv(r'C:\Users\divesh\Downloads\archive\tips.csv')
#df = pd.read_csv('tips.csv')
#df.head()
df = sns.load_dataset('tips')
df.head()
```

Out[4]:

	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

In [5]:

```python
df.dtypes
```

Out[5]:

```
total_bill     float64
tip            float64
sex           category
smoker        category
day           category
time          category
size            int64
dtype: object
```

```
df.describe(include='category')
```

	sex	smoker	day	time
count	244	244	244	244
unique	2	2	4	2
top	Male	No	Sat	Dinner
freq	157	151	87	176

BI-VARIANT GRAPHS

CONTINUOUS vs CONTINUOUS

```
df.columns
```

```
Index(['total_bill', 'tip', 'sex', 'smoker', 'day', 'time', 'size'], dtype
='object')
```

```
sns.relplot(data=df, x='total_bill',y='tip')
```

Out[8]:

```
<seaborn.axisgrid.FacetGrid at 0x25e47613430>
```

```
sns.relplot(data = df,x = 'total_bill',y='tip')
plt.show()
```
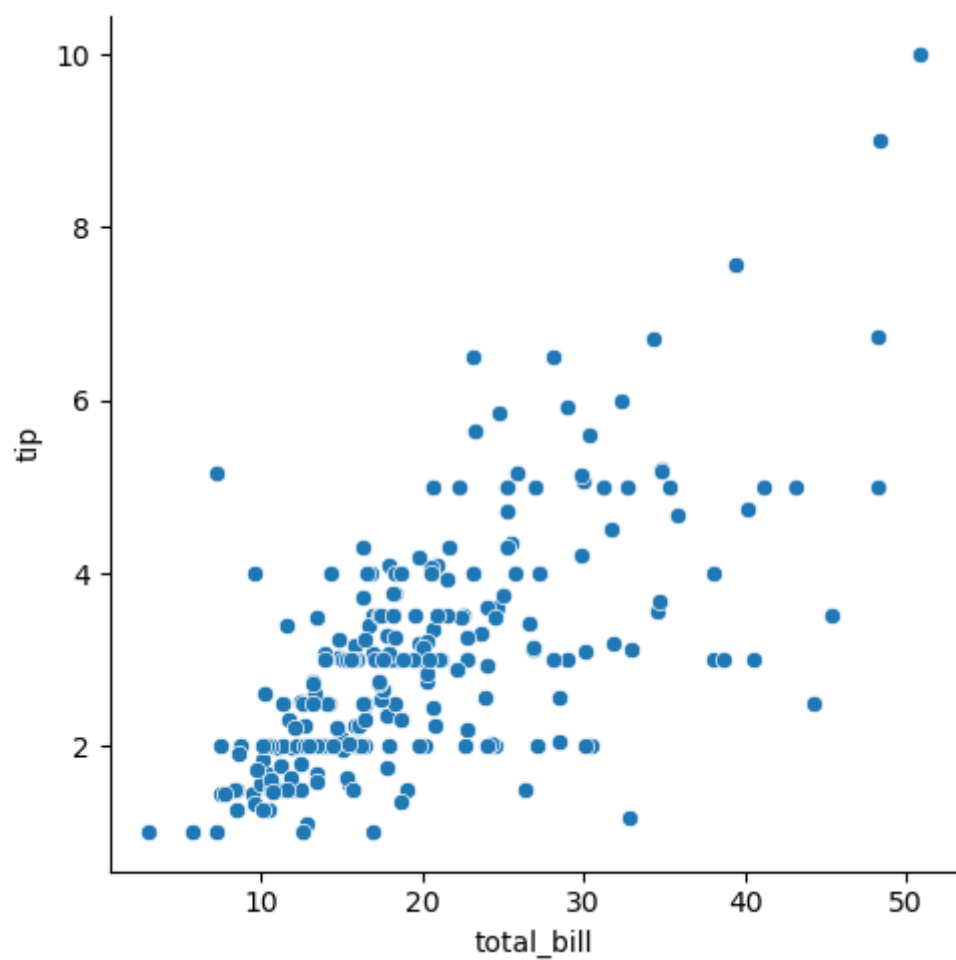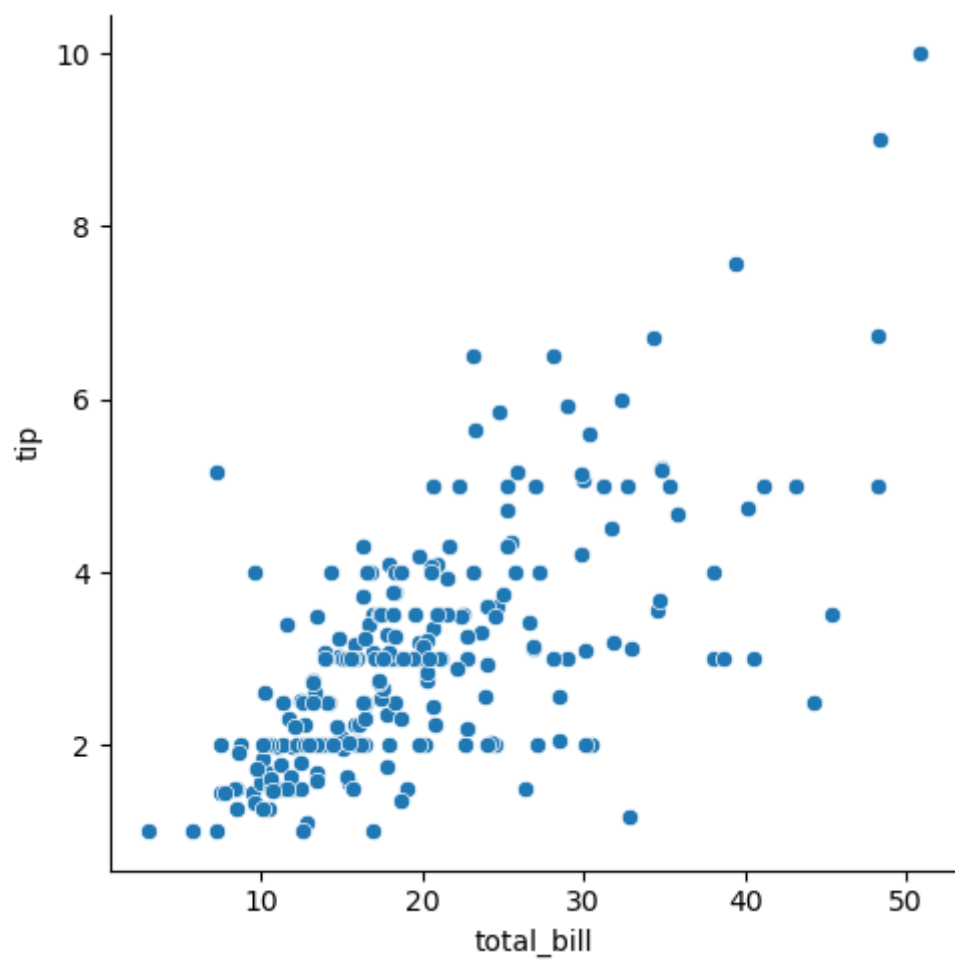
```
sns.scatterplot(data=df,x='total_bill',y ='tip')
plt.show()
```
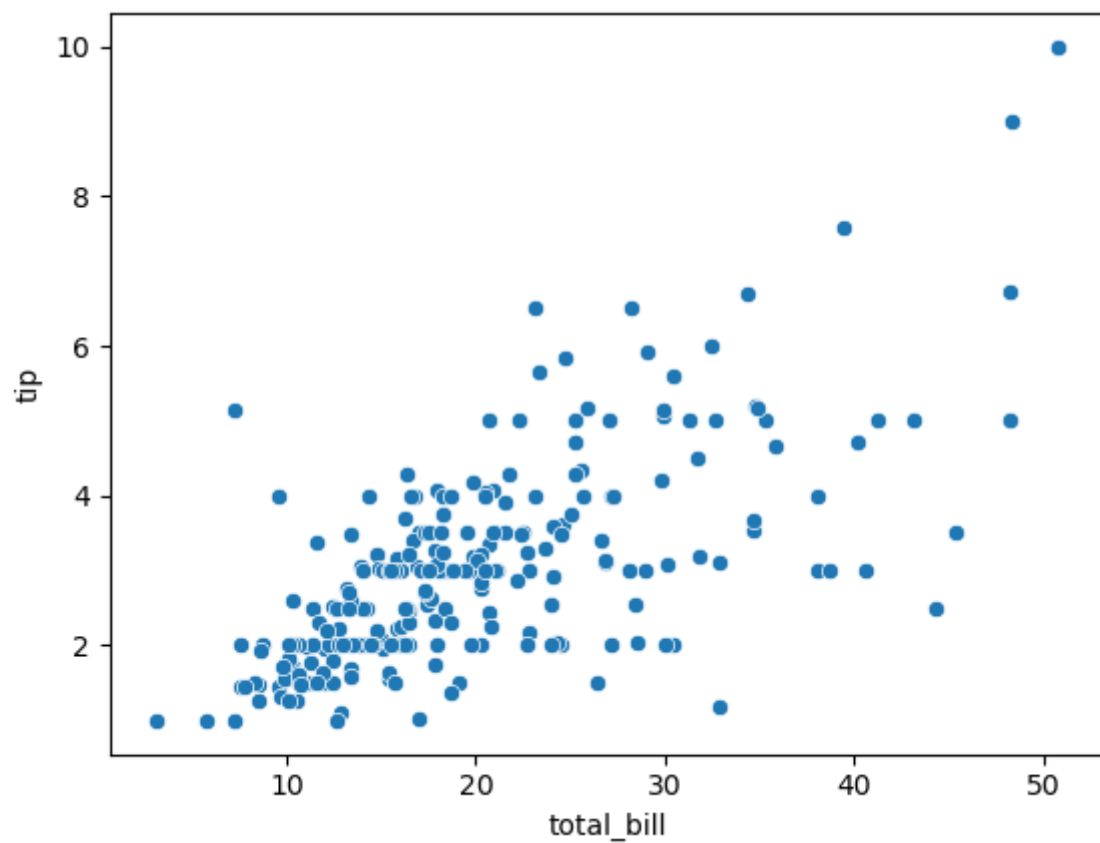
```
sns.lineplot(data=df,x='total_bill',y='tip')
plt.show()
```
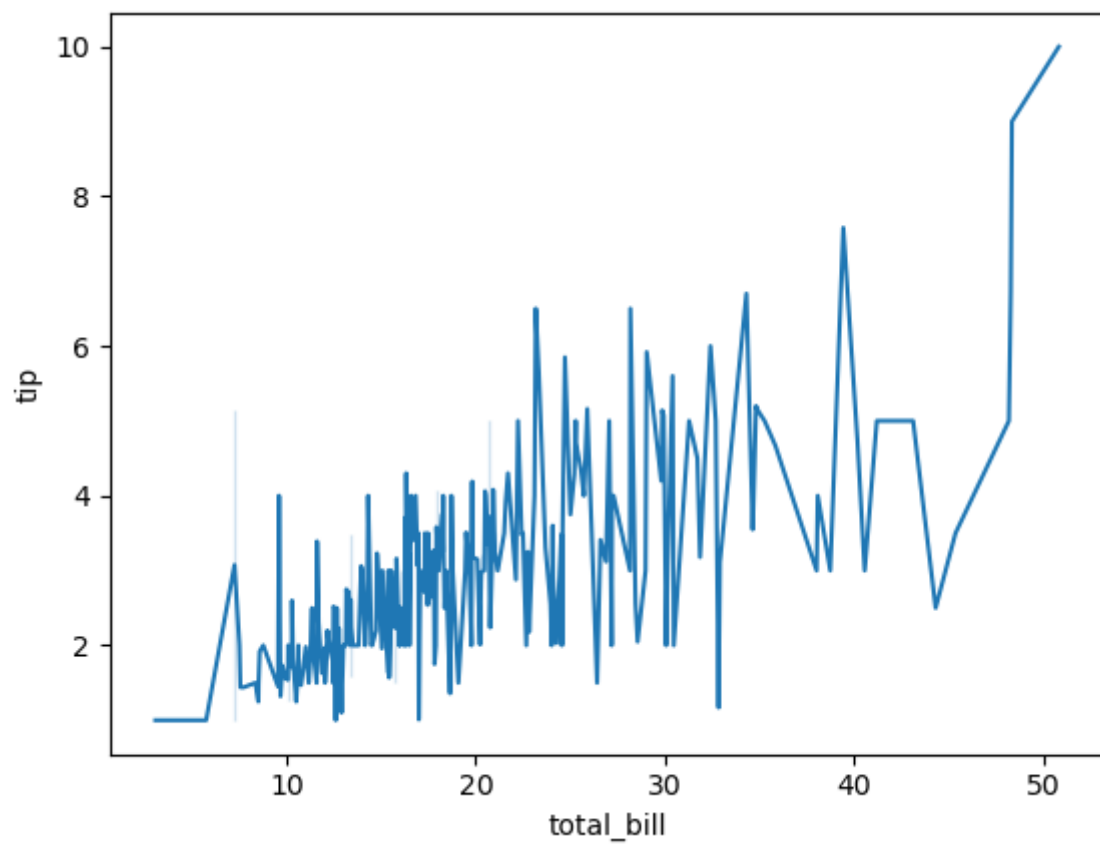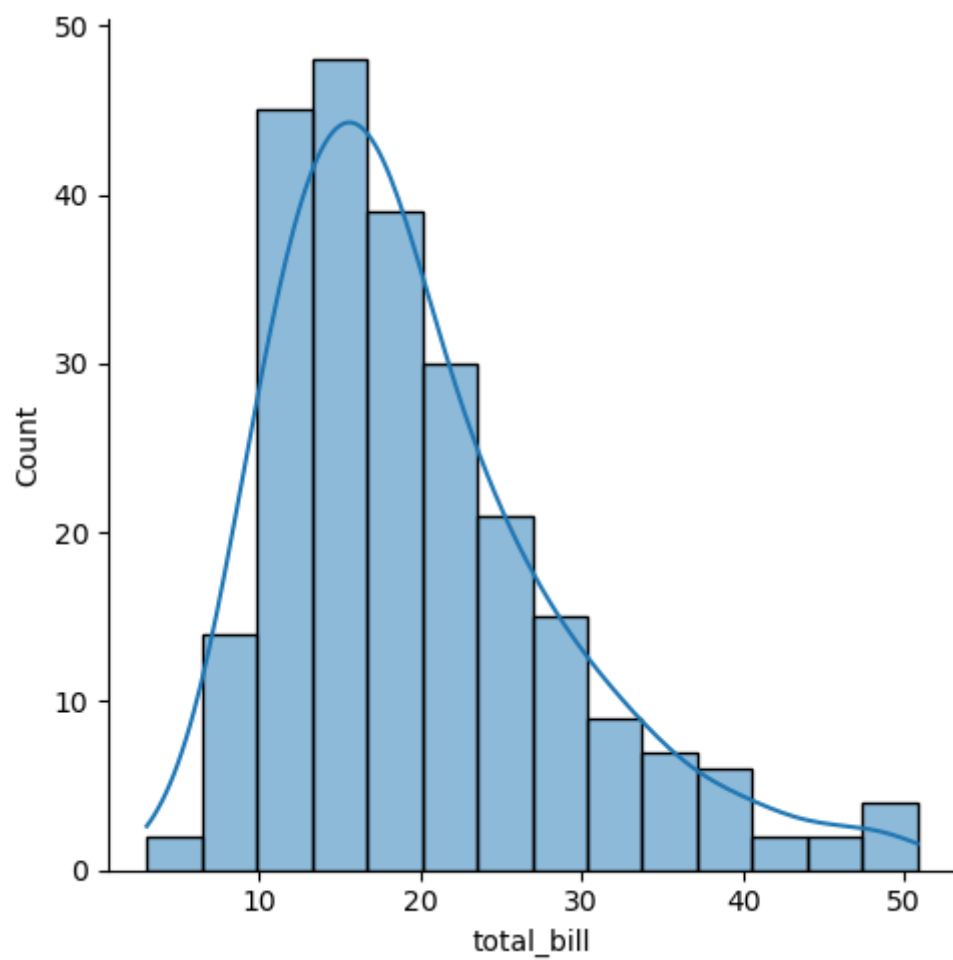
UNI-VARIANT GRAPHS

CONTINUOUS

```python
sns.displot(data=df,x='total_bill')
plt.show()
```
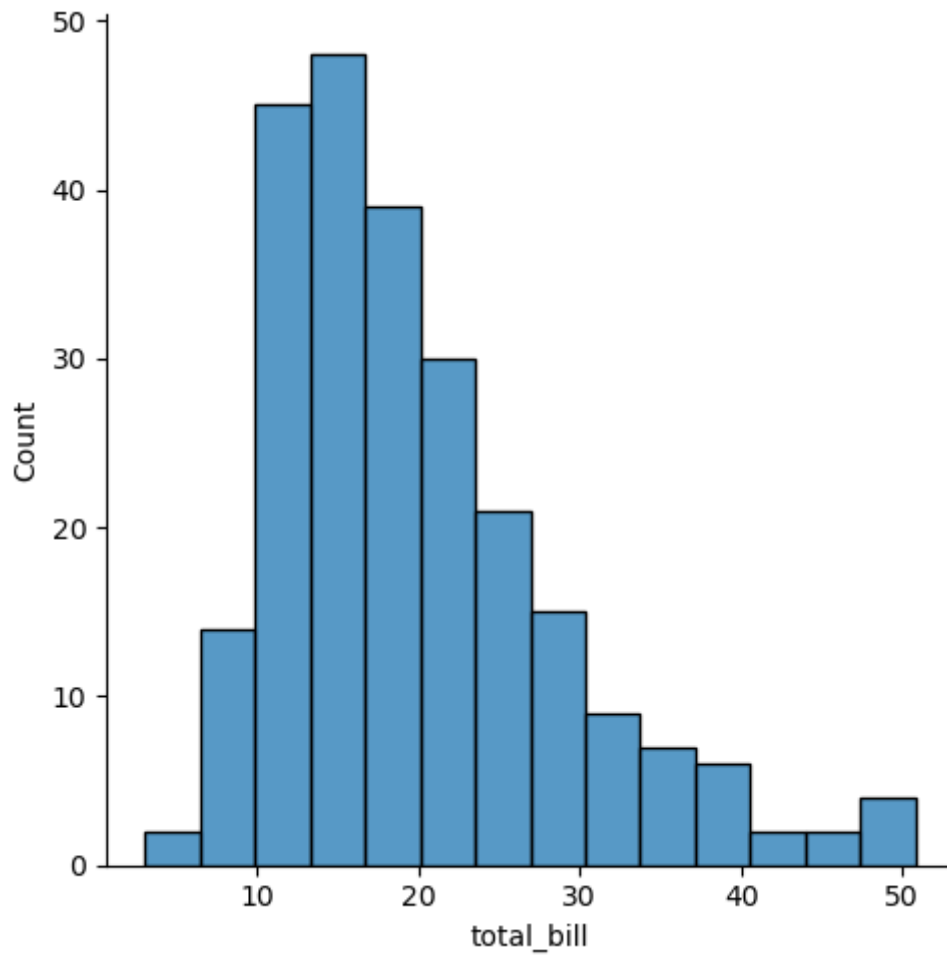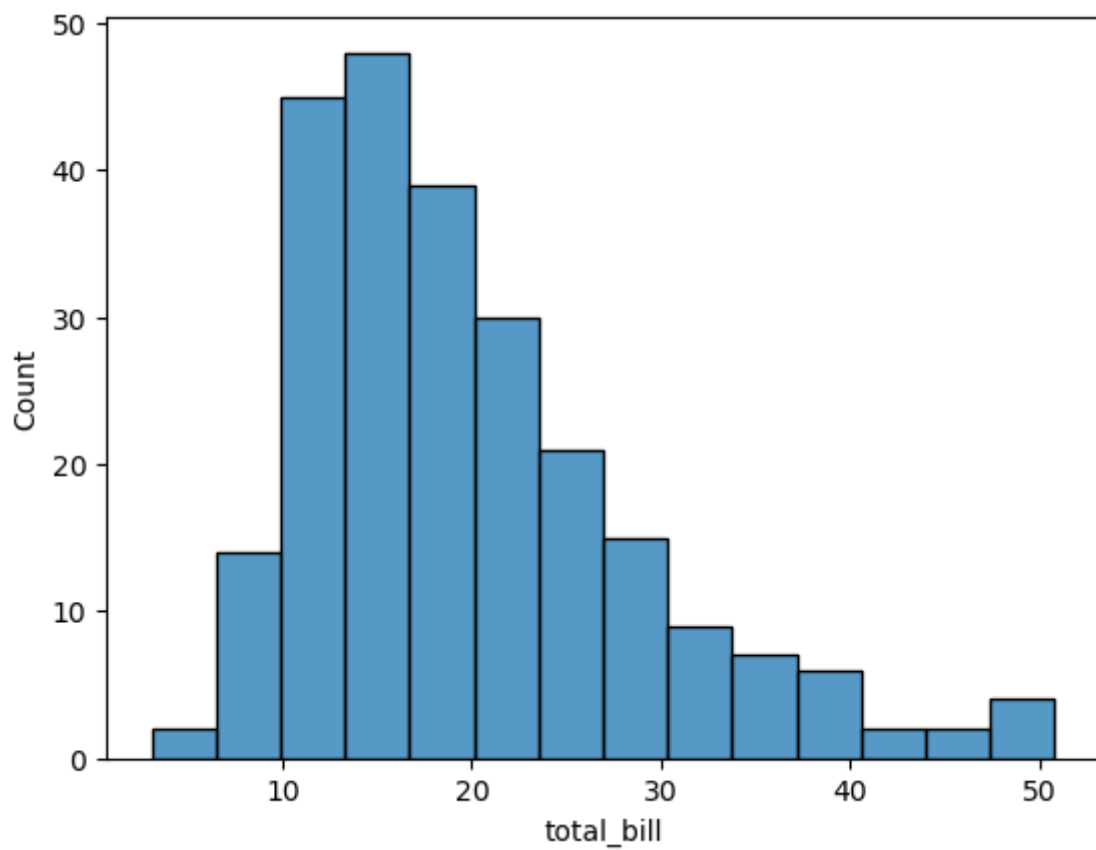
```python
# kernel density estimate
sns.displot(data=df,x='total_bill',kde=True)
plt.show()
```

```
sns.histplot(data=df,x ='total_bill')
plt.show()
```

```
sns.kdeplot(data=df,x='total_bill')
plt.show()
```
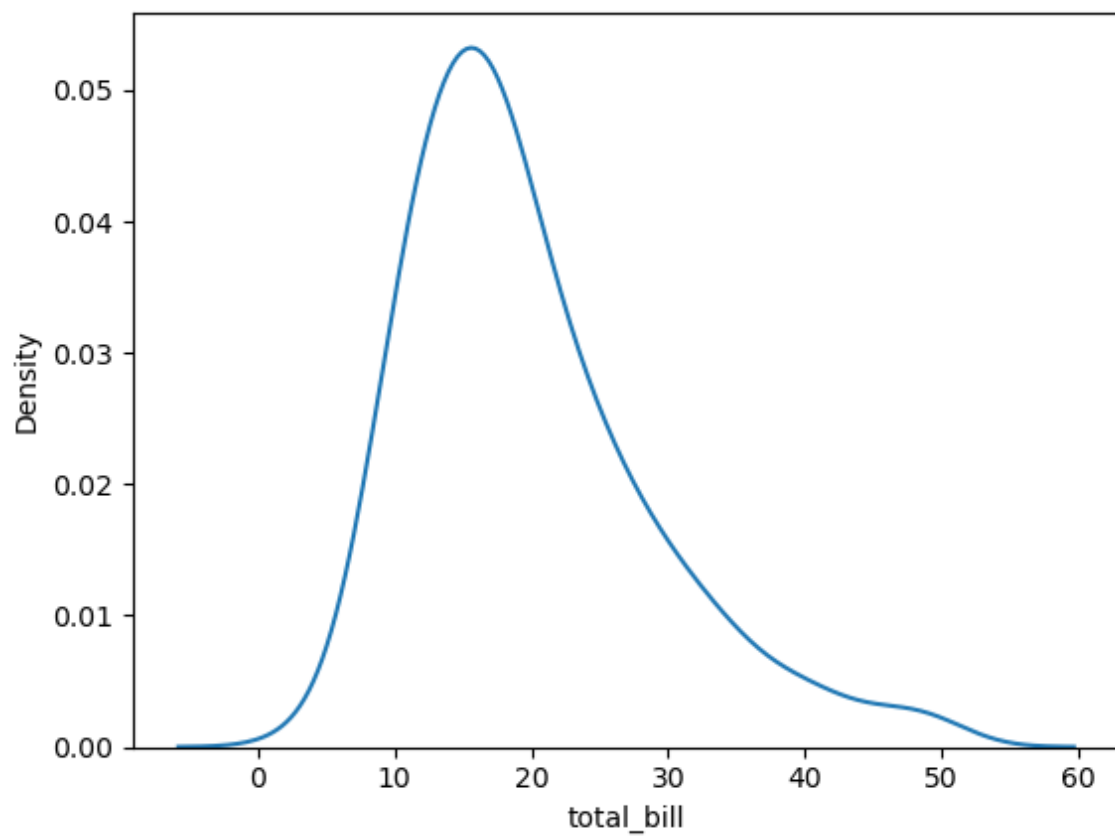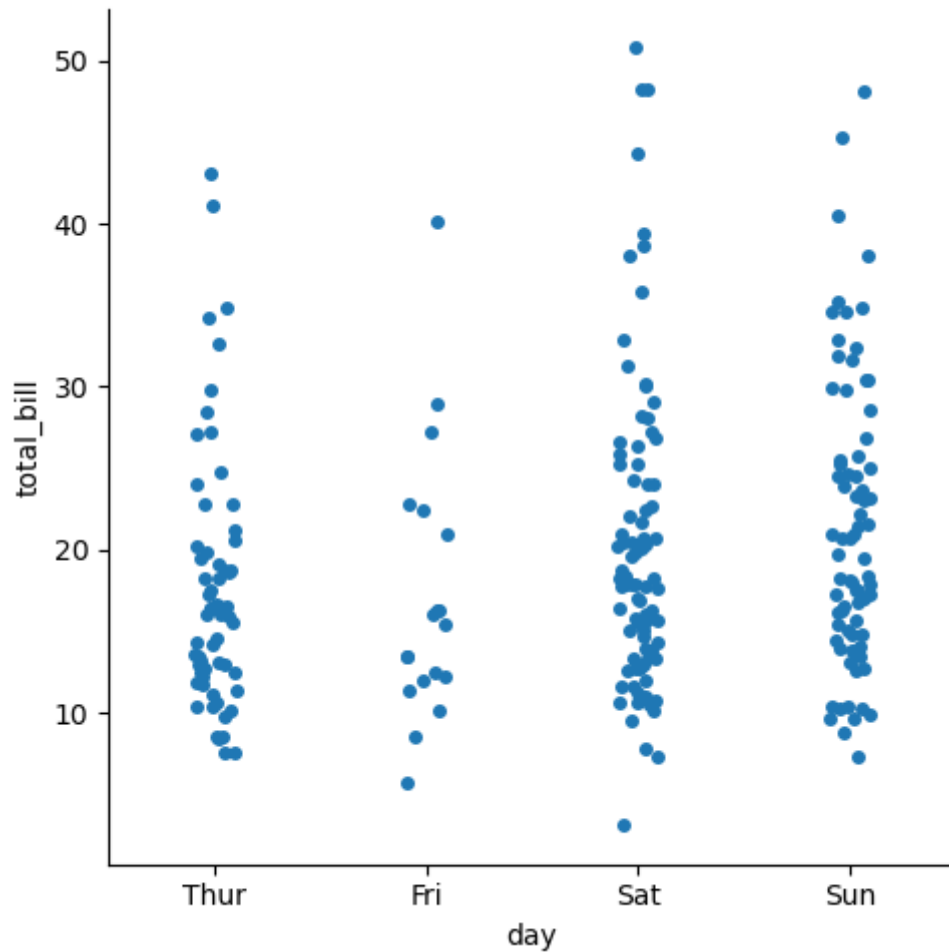
```
sns.ecdfplot(data=df,x='total_bill')
plt.show()
```
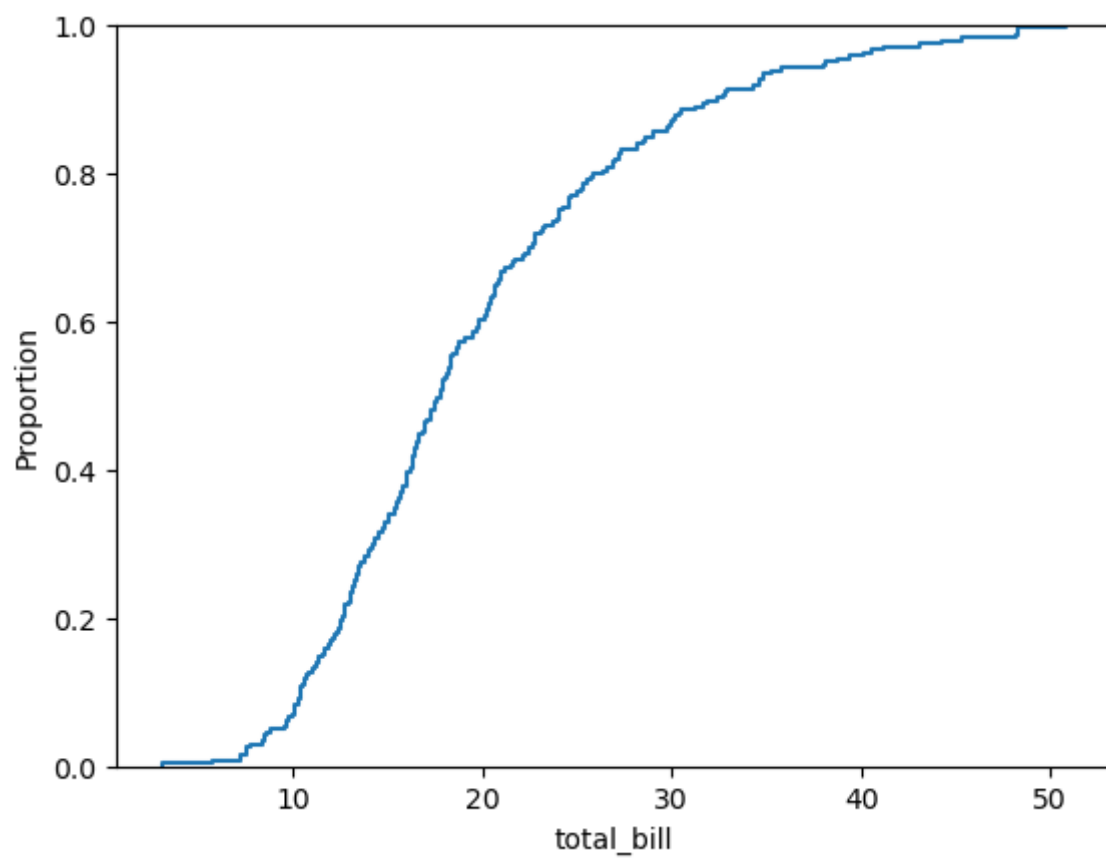
```
sns.rugplot(data=df,x='total_bill')
plt.show()
```
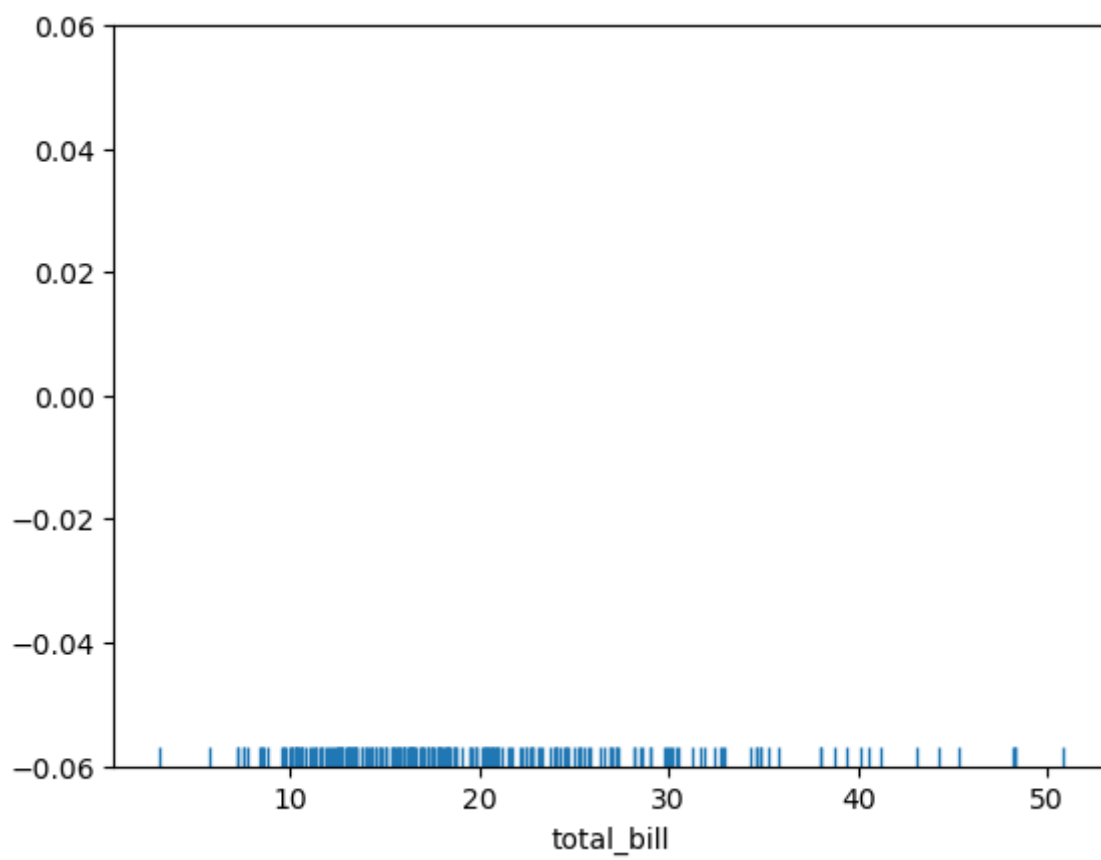
BI-VARIANT

CATEGORICAL VS CONTINUOUS

```
sns.catplot(data=df, x='day',y="total_bill")
plt.show()
```
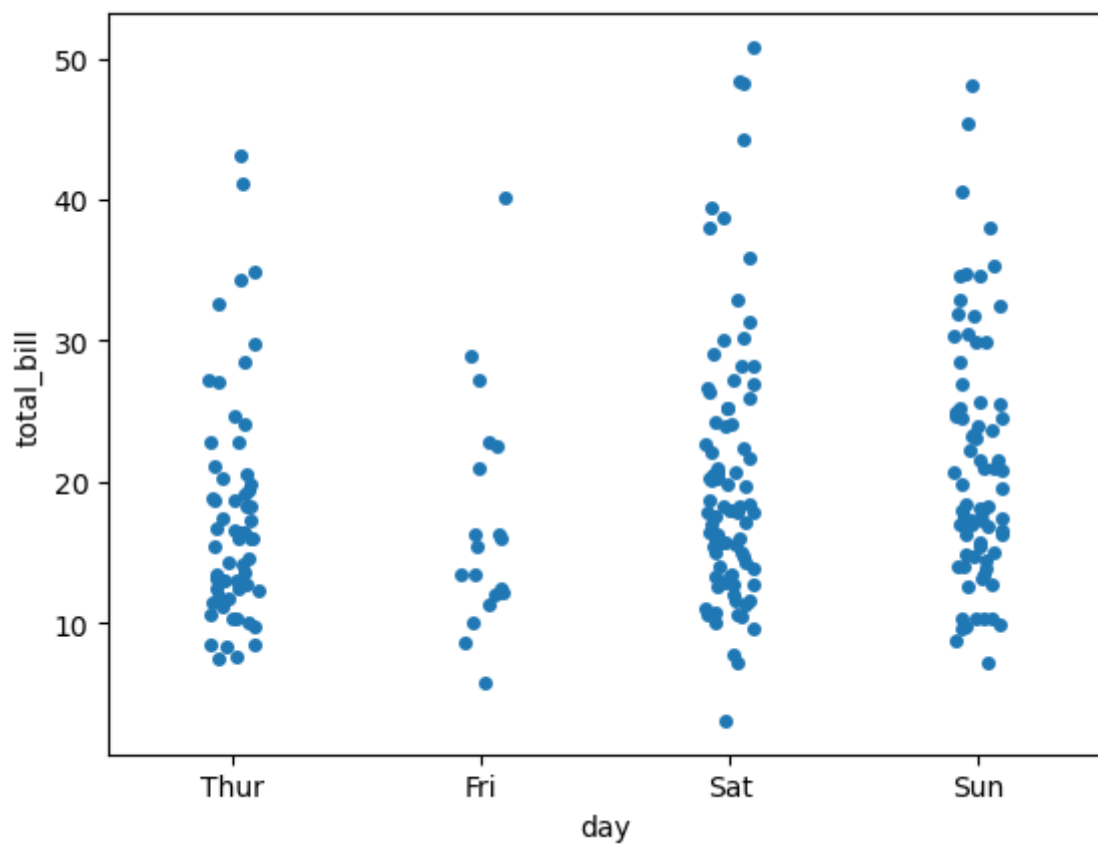
```
sns.stripplot(data=df, x='day',y="total_bill")
plt.show()
```
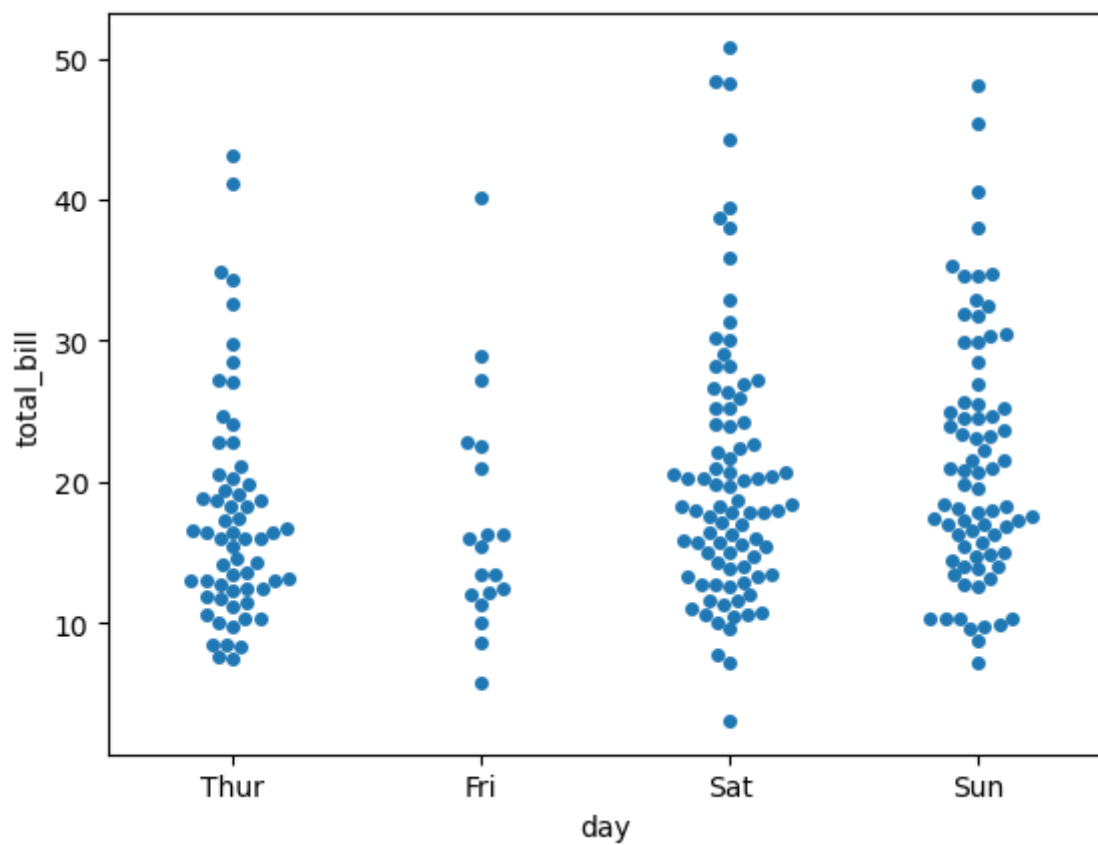
```
sns.swarmplot(data=df, x='day',y="total_bill")
plt.show()
```
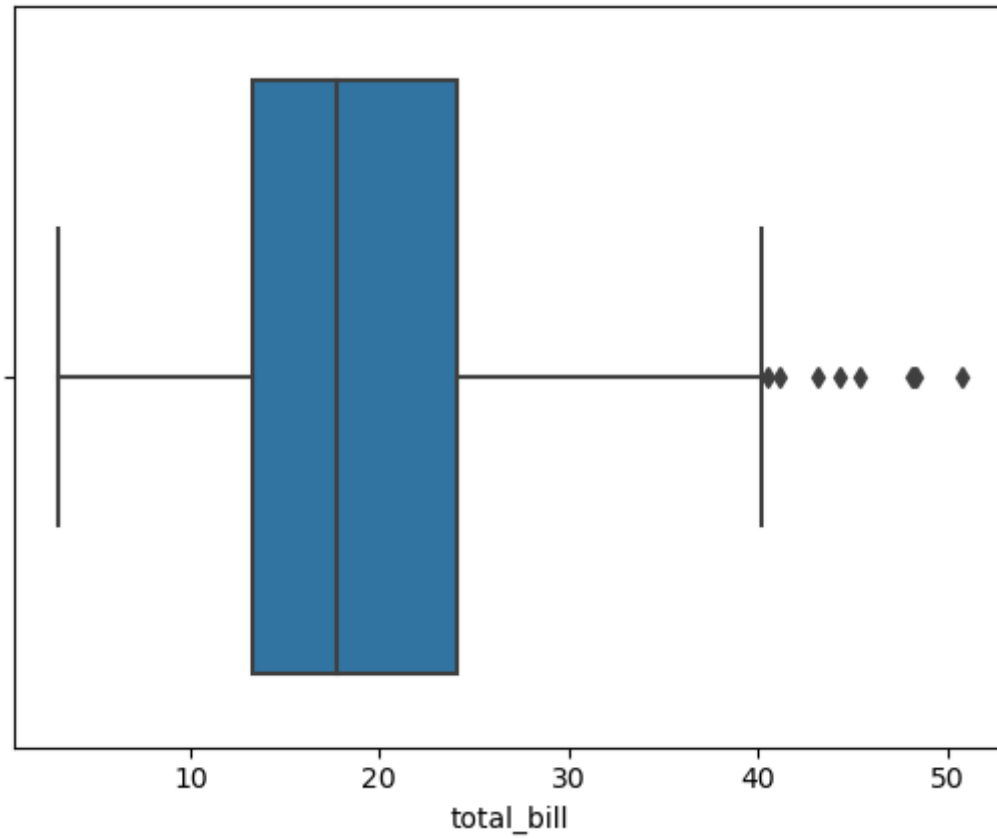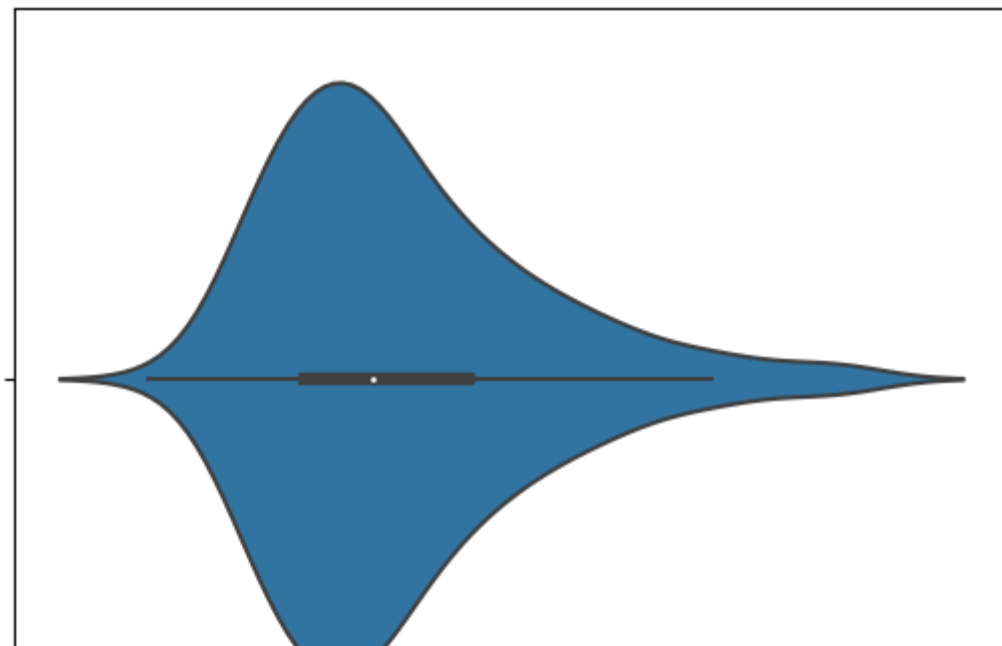
UNI-VARIANT GRAPHS

CONTINUOUS - OUTLIERS

```
sns.boxplot(data=df,x='total_bill')
plt.show()
```

```python
sns.violinplot(data=df,x='total_bill')
plt.show()
```
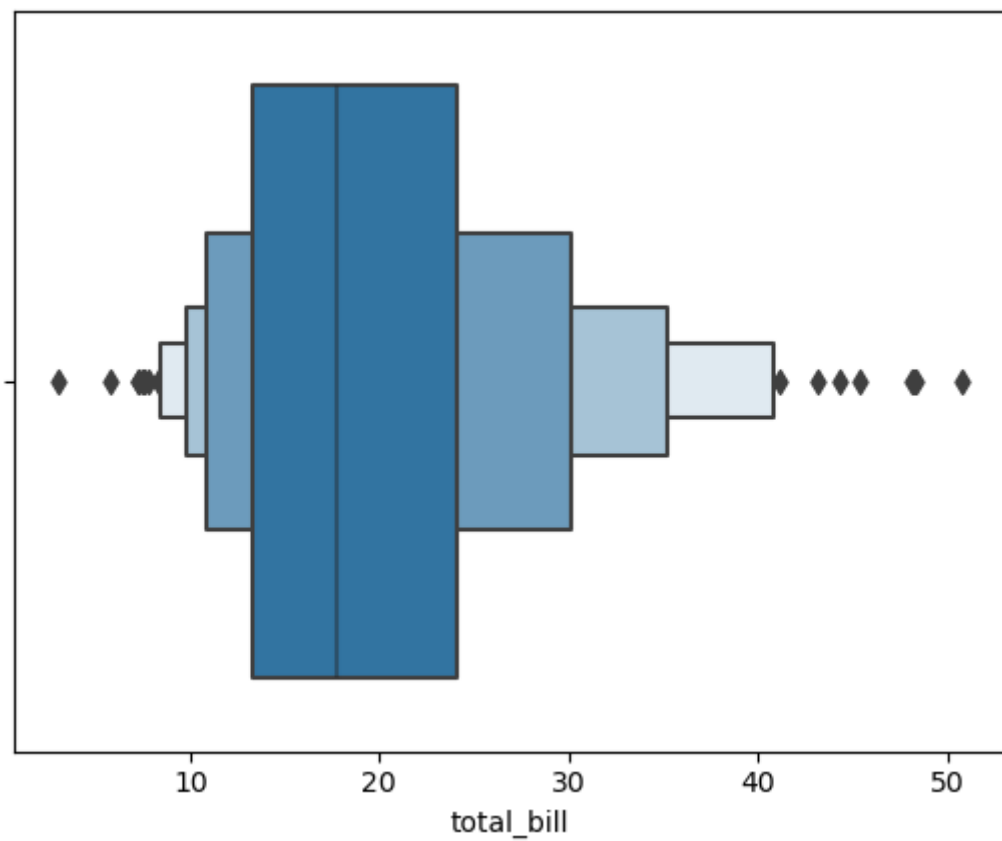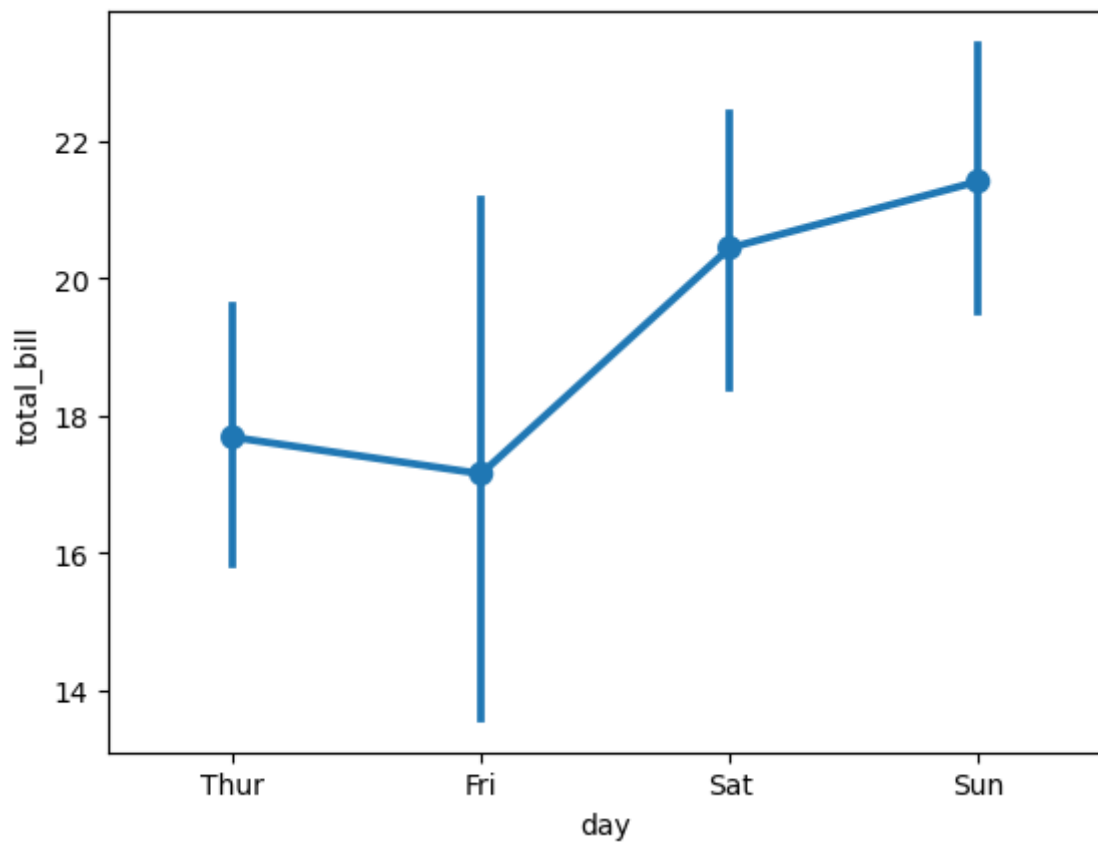
```python
sns.boxenplot(data=df,x='total_bill')
plt.show()
```
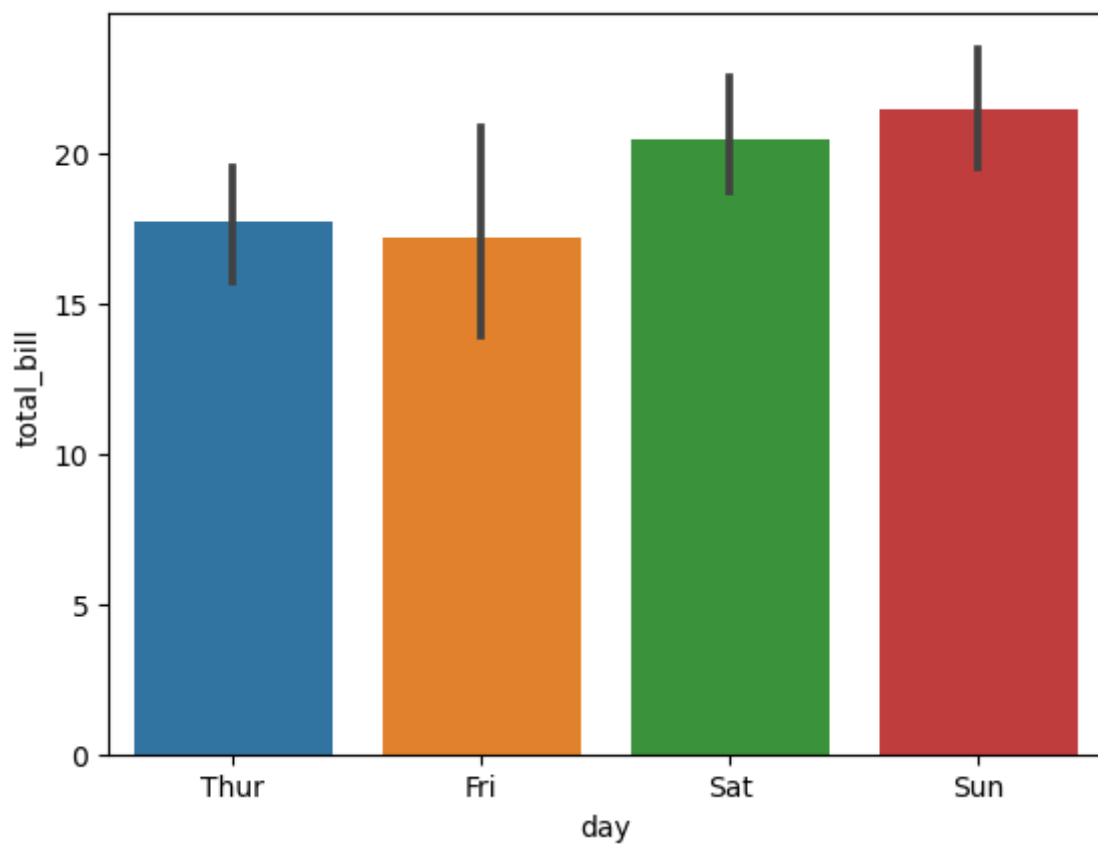
```
sns.pointplot(data=df, x='day',y="total_bill")
plt.show()
```
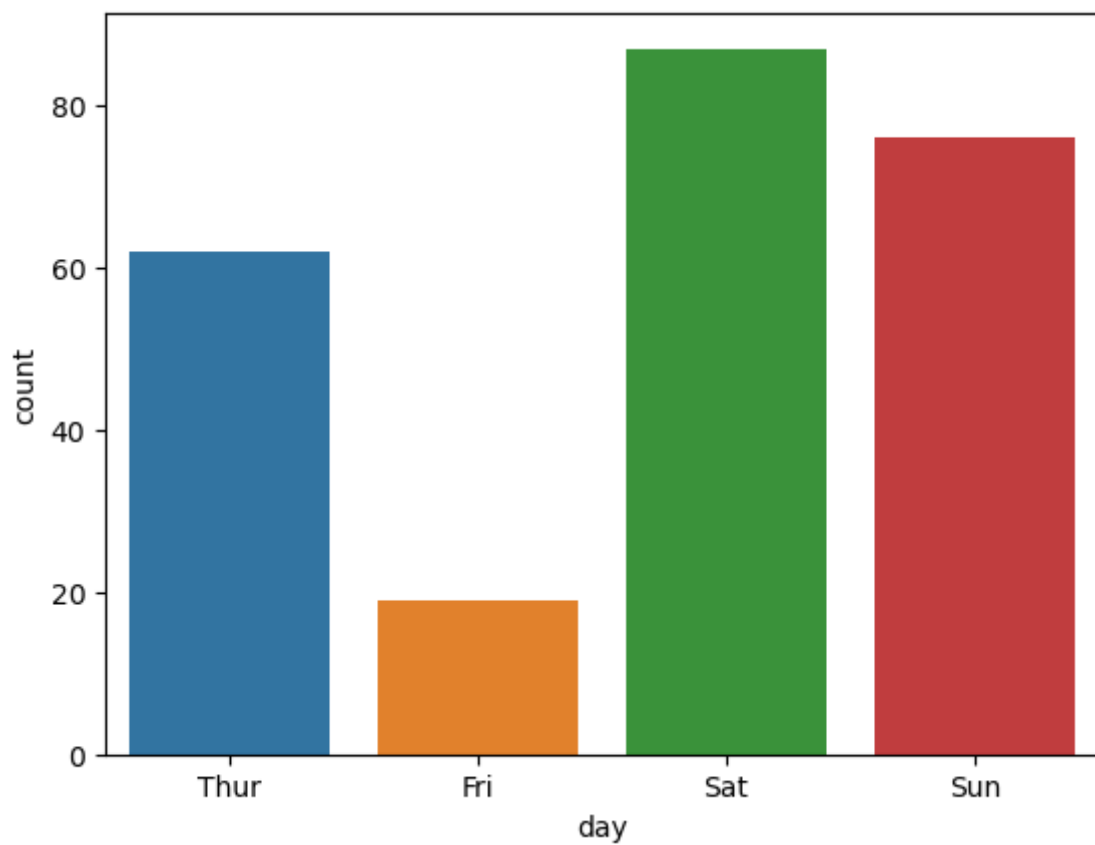
```
sns.barplot(data=df, x='day',y="total_bill")
plt.show()
```

```
sns.countplot(data=df, x='day')
plt.show()
```
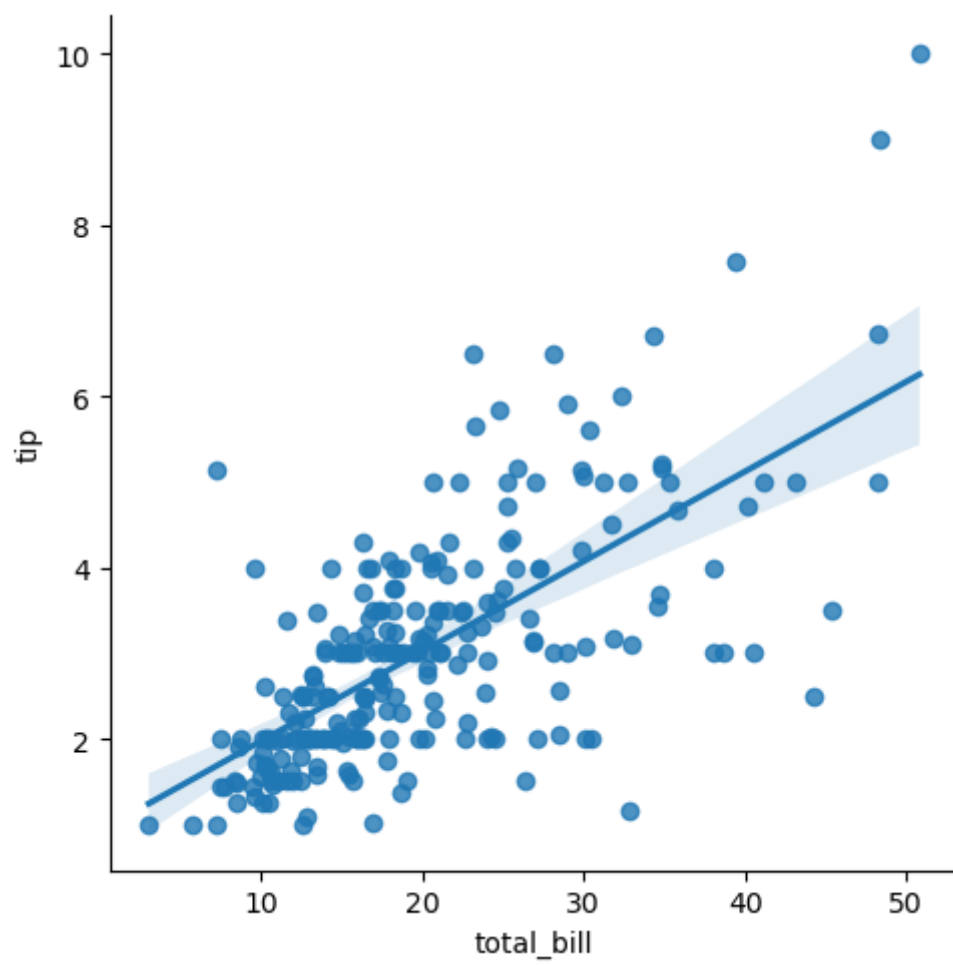
```
sns.lmplot(data=df,x='total_bill',y='tip')
plt.show()
```
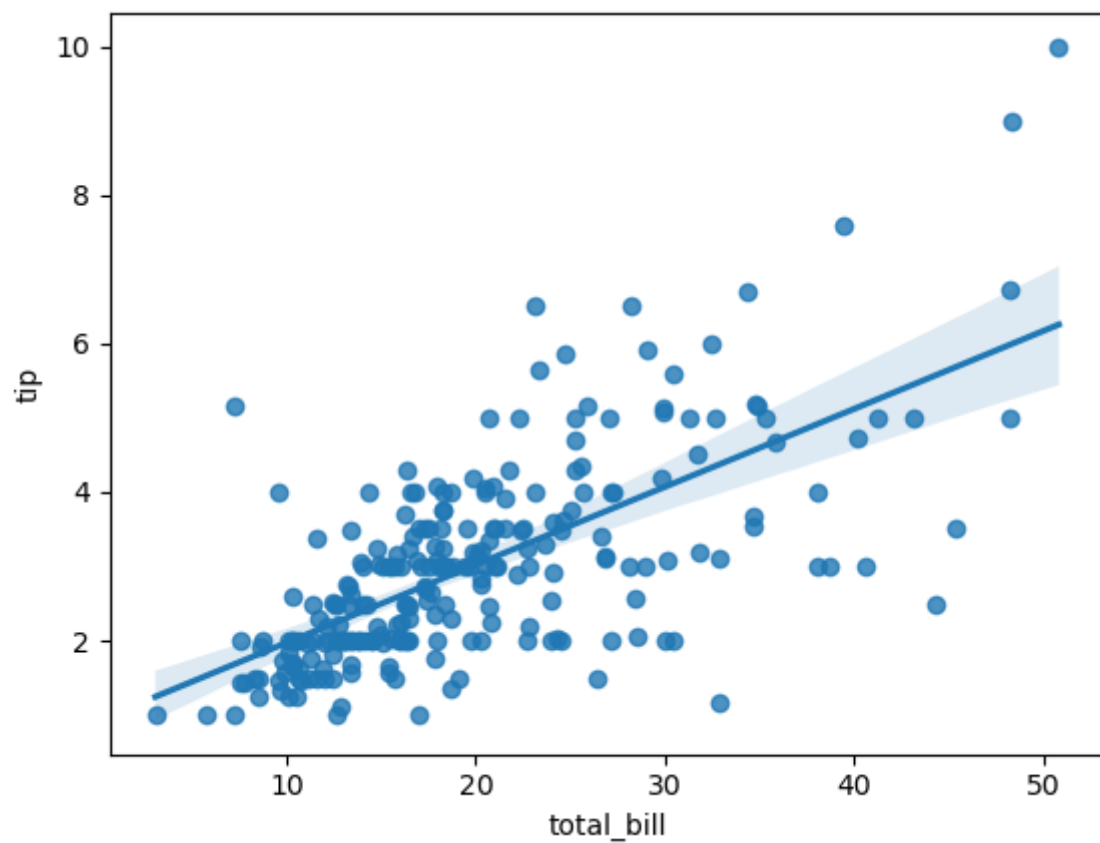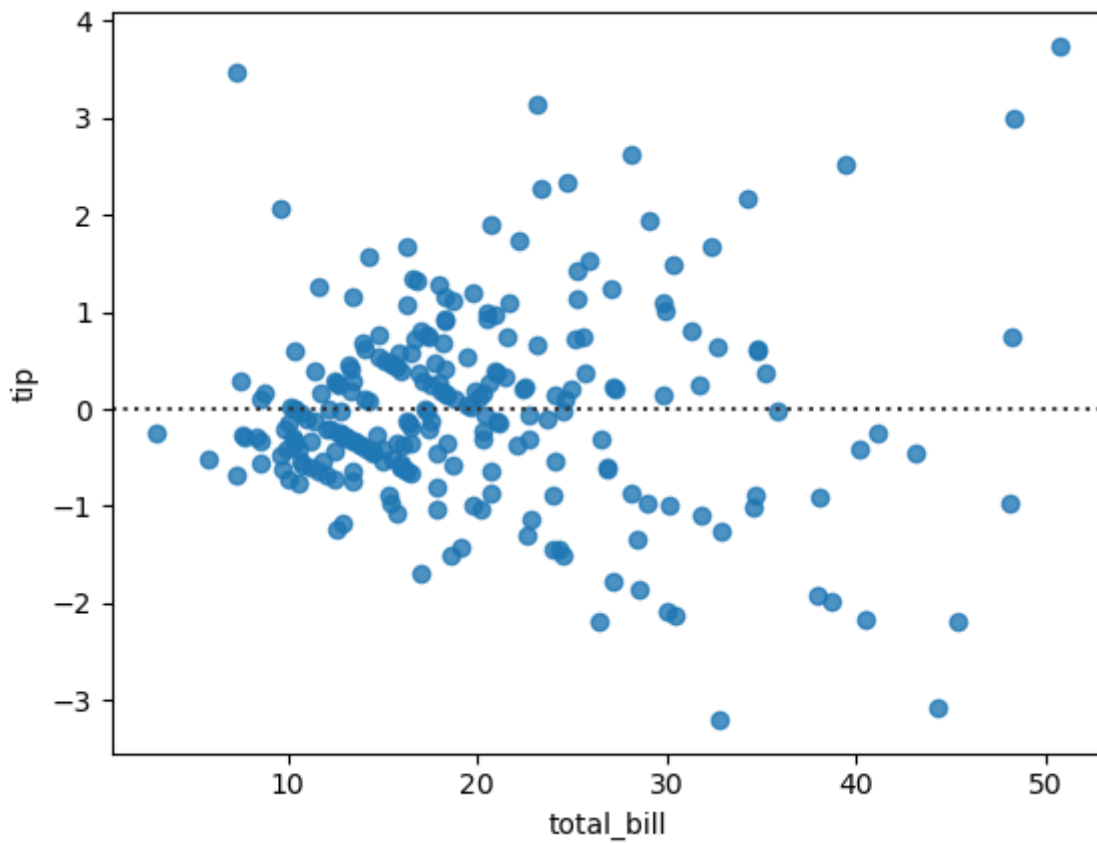
```
sns.regplot(data=df,x='total_bill',y='tip')
plt.show()
```

```
sns.residplot(data=df,x='total_bill',y='tip')
plt.show()
```

```
df1=sns.load_dataset('iris')
df1.head()
```

```
df1.drop(['species'],axis=1,inplace=True)
```

```
df1.head()
```

```
sns.heatmap(df1.corr(), annot=True)
plt.show()
```

```
sns.heatmap(df1.corr())
plt.show()
```

```
sns.scatterplot(data=df1,x="sepal_width",y="petal_length")
plt.show()
```