```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from scipy import stats
from scipy.stats import skew, kurtosis, mode #Phyton libraries inferential statistics
import seaborn as sns #This is for generating Histogram with Ker
```

```
df = pd.read_csv('hotel_books.csv') #uread the 'hotel_books.csv' file
df.head(5)
```

	day	clients	total_bill
0	1	33	23958
1	2	25	26812
2	3	5	24871
3	4	17	17954
4	5	28	29416

```
df.dtypes #check for data types
```

	0
day	int64
clients	int64
total_bill	int64

dtype: object

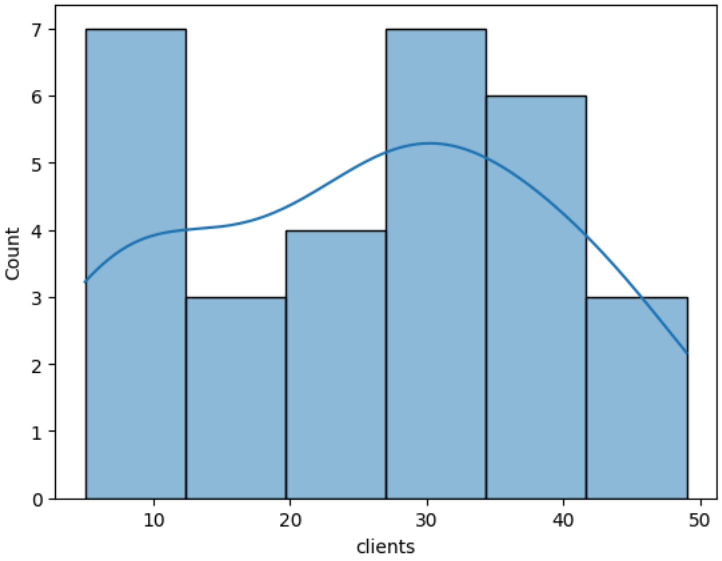
```
df.isnull() .sum() #check for missing values
```

	0
day	0
clients	0
total_bill	0

dtype: int64

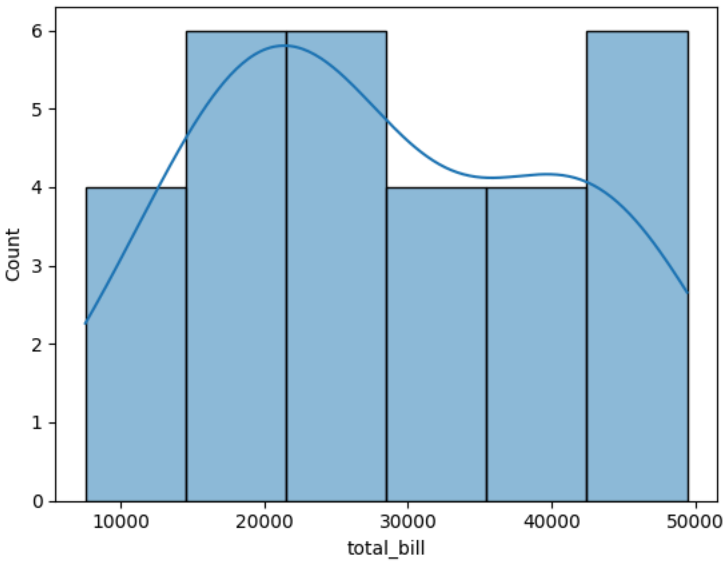
```
sns.histplot(df['clients'], kde=True) #generate histogram with kernel density estimate (KDE) for number of hotel clients
```

```
<Axes: xlabel='clients', ylabel='Count'>
```



```
sns.histplot(df['total_bill'], kde=True) #generate histogram with kernel density estimate (KDE) for total bill collected
```

```
<Axes: xlabel='total_bill', ylabel='Count'>
```



```
#compute for skewness and kurtosis for number of clients
skew1 = df['clients'].skew()
kurt1 = df['clients'].kurt()
print(f'Kurtosis for the number of hotel clients in a day:{kurt1}')
print(f'Skewness for the number of hotel clients in a day:{skew1}')
```

```
Kurtosis for the number of hotel clients in a day:-1.1388703400867874
Skewness for the number of hotel clients in a day:-0.059688088896371035
```

```
#compute for skewness and kurtosis for total number of bill
skew2 = df['total_bill'].skew()
kurt2 = df['total_bill'].kurt()
print(f'Kurtosis for the total bill collected in a day:{kurt2}')
print(f'Skewness for the total bill collected in a day:{skew2}')
```

```
Kurtosis for the total bill collected in a day:-1.130219880444574
Skewness for the total bill collected in a day:0.18976914965853053
```

```
df.describe() #generate summary measure and observe the mean and 50% (median)
```

	day	clients	total_bill
count	30.000000	30.000000	30.000000
mean	15.500000	25.666667	28344.233333
std	8.803408	13.557879	12441.769892
min	1.000000	5.000000	7534.000000
25%	8.250000	16.000000	18335.000000
50%	15.500000	28.000000	25841.500000
75%	22.750000	35.750000	39810.250000
max	30.000000	49.000000	49450.000000

```
stats.mode(df['clients']) #compute for mode
```

```
ModeResult(mode=8, count=4)
```

```
stats.mode(df['clients']) #compute for mode
```

```
ModeResult(mode=8, count=4)
```