Implementation of Data Visualization using Seaborn

In [2]:
```
import matplotlib.pyplot as plt
import seaborn as sns

df = sns.load_dataset("tips")
df.head(3)
```

Out[2]:

	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

In [3]:
```
df1 = df[['total_bill','tip','size']]
corr = df1.corr()
corr
```

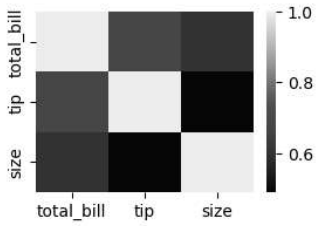
Out[3]:

	total_bill	tip	size
total_bill	1.000000	0.675734	0.598315
tip	0.675734	1.000000	0.489299
size	0.598315	0.489299	1.000000

Heat Map

In [33]:
```
plt.figure(figsize=(3,2))
sns.heatmap(corr)
```

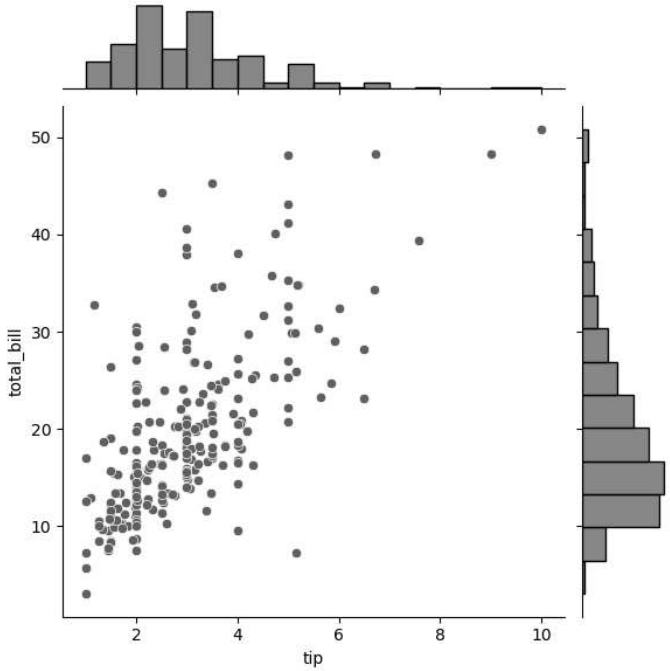
Out[33]: <Axes: >



Joint Plot

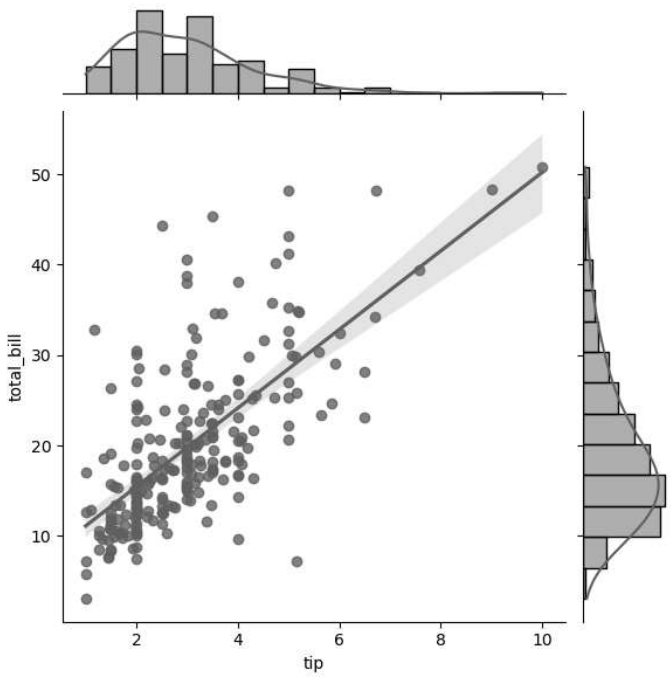
In [7]:
```
df1 = df[['total_bill','tip','size']]

sns.jointplot(data=df1,x='tip',y='total_bill')
```

Out[7]: <seaborn.axisgrid.JointGrid at 0x7f8e8fc44b10>



In [8]:
```
sns.jointplot(data=df1,x='tip',y='total_bill', kind='reg')
```

Out[8]: <seaborn.axisgrid.JointGrid at 0x7f8e878c35d0>

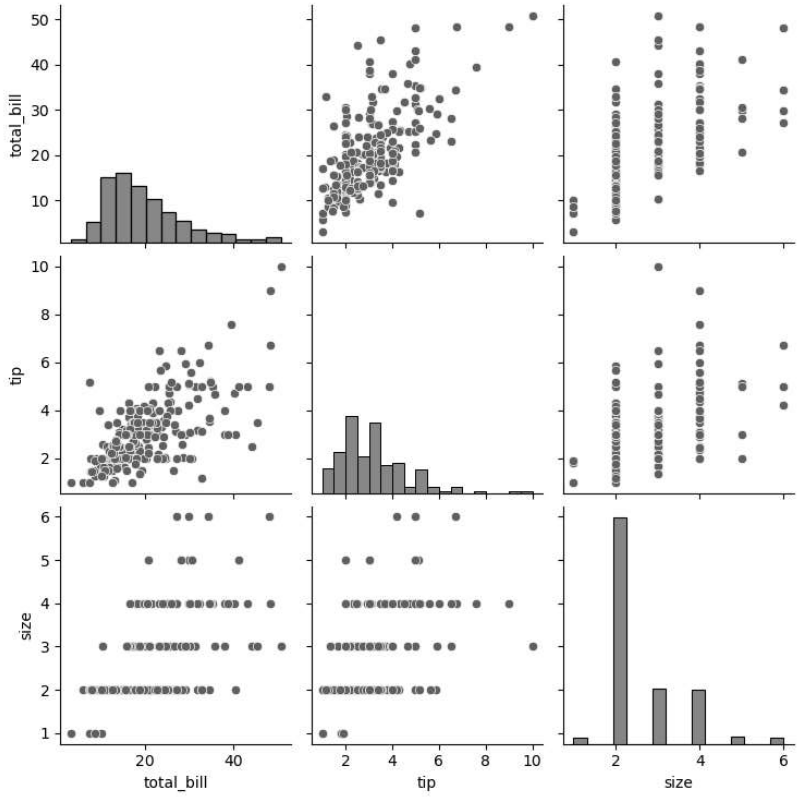


Pair Plot

In [10]:
```
sns.pairplot(data=df1)
```

```
/opt/conda/envs/anaconda-panel-2023.05-py310/lib/python3.11/site-packages/seaborn/axisgrid.py:1
18: UserWarning: The figure layout has changed to tight
  self._figure.tight_layout(*args, **kwargs)
```

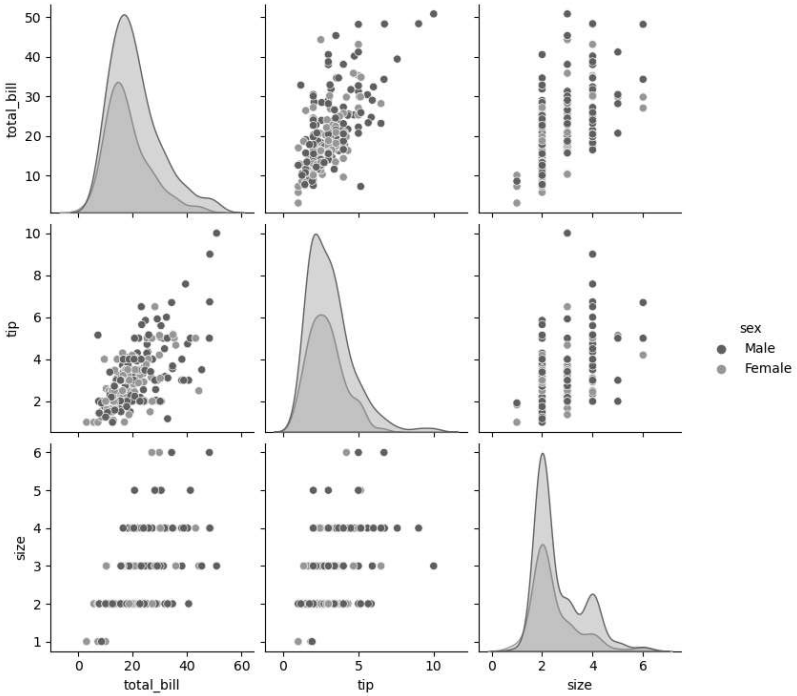
Out[10]: <seaborn.axisgrid.PairGrid at 0x7f8e8fa7b950>



In [11]:
```
sns.pairplot(data=df, hue='sex')
```

```
/opt/conda/envs/anaconda-panel-2023.05-py310/lib/python3.11/site-packages/seaborn/axisgrid.py:1
18: UserWarning: The figure layout has changed to tight
  self._figure.tight_layout(*args, **kwargs)
```

Out[11]: <seaborn.axisgrid.PairGrid at 0x7f8e876a6c50>



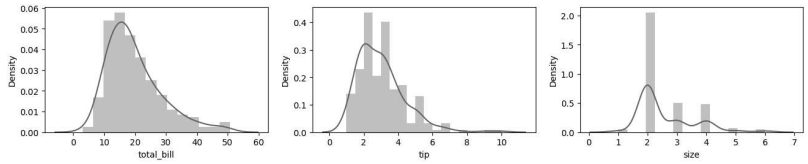
Dist Plot

In [13]:
```
plt.figure(figsize=(16,9))
plt.subplot(3,3,1)
sns.distplot(df['total_bill'])
plt.subplot(3,3,2)
sns.distplot(df['tip'])
plt.subplot(3,3,3)
sns.distplot(df['size'])
```



```
/tmp/ipykernel_662/4055460510.py:3: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(df['total_bill'])
/tmp/ipykernel_662/4055460510.py:5: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(df['tip'])
/tmp/ipykernel_662/4055460510.py:7: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn v0.14.0.

Please adapt your code to use either `displot` (a figure-level function with
similar flexibility) or `histplot` (an axes-level function for histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  sns.distplot(df['size'])
```

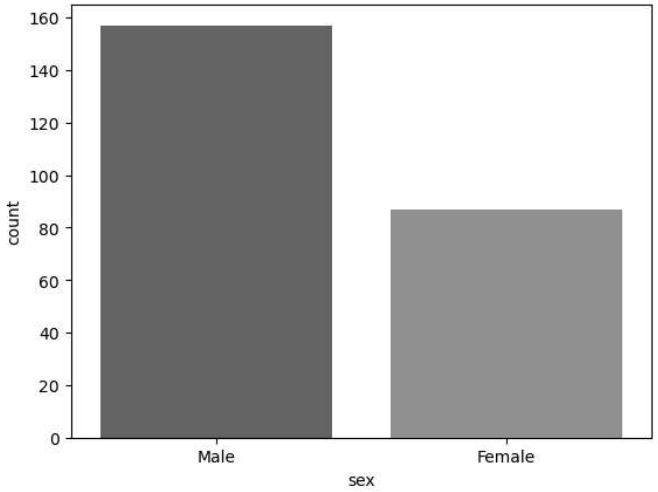
Out[13]: <Axes: xlabel='size', ylabel='Density'>



Count Plot

In [15]:
```
sns.countplot(data=df,x='sex')
```

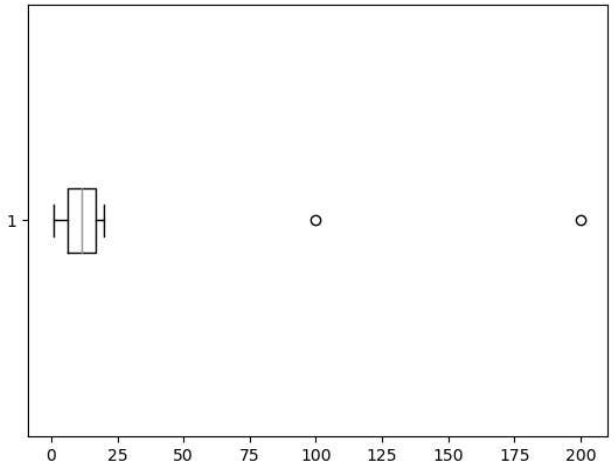
Out[15]: <Axes: xlabel='sex', ylabel='count'>



Boxplot

In [17]:
```
x = [i for i in range(1,21)] + [100,200]
print(f'x : {x}')
plt.boxplot(x,vert=False)
plt.show()
```

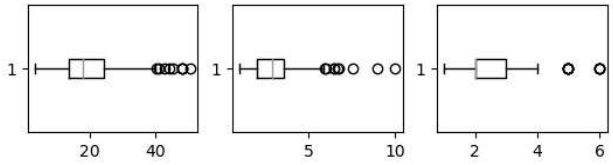
```
x : [1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 100, 200]
```



In [18]:
```
plt.subplot(3,3,1)
plt.boxplot(df['total_bill'],vert=False)
```



```
plt.subplot(3,3,2)
plt.boxplot(df['tip'],vert=False)
plt.subplot(3,3,3)
plt.boxplot(df['size'],vert=False)
plt.show()
```



In [ ]: