SEABORN LIBRARY :

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In [2]:
```
# As per now, we have closed with - 'pandas', 'numpy', 'matplotlib' -
# Now the most important thing is - 'Seaborn Liberary'

# Seaborn - has been build on top of 'matplotlib'.
# Seaborn - is Specially designed to work with an a 'Stat' data - Statistical Graphical Representation
#            something like 'Uni-Variant'. Means, Whenever we want to work with an a
#           'Single Variable', 'Multivariant'....
# And i want 'Identify' the 'Co-ralation' - Actually the next step in the Statistics.

# 'Seaborn' --> has been designed to Identify (or) to work on top of an a Statistical like -
#              "Uni-Variable","Bi-Variable","Multi-Variable" Working Environment.
# Seaborn - Also, We Call it as an a 'Statistical plotting Library'.
# Seaborn - We can see as an a - "UPDATAED GRAPHICAL REPRESENTATION OF DATA".
```

In [3]:
```
# Calling Seaborn Library :

import seaborn as sns
```

In [4]:
```
# Now, There is an a 'Inbuilt DataSet' Called as 'Tips' :


tips = sns.load_dataset('tips')
```

In [5]:
```
tips
```

Out[5]:

	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
...	...	...	...	...	...	...	...
239	29.03	5.92	Male	No	Sat	Dinner	3
240	27.18	2.00	Female	Yes	Sat	Dinner	2
241	22.67	2.00	Male	Yes	Sat	Dinner	2
242	17.82	1.75	Male	No	Sat	Dinner	2
243	18.78	3.00	Female	No	Thur	Dinner	2

244 rows × 7 columns

In [5]:
```
# Now let's go indepth of 'seaborn' :
```

1. DIST PLOT :

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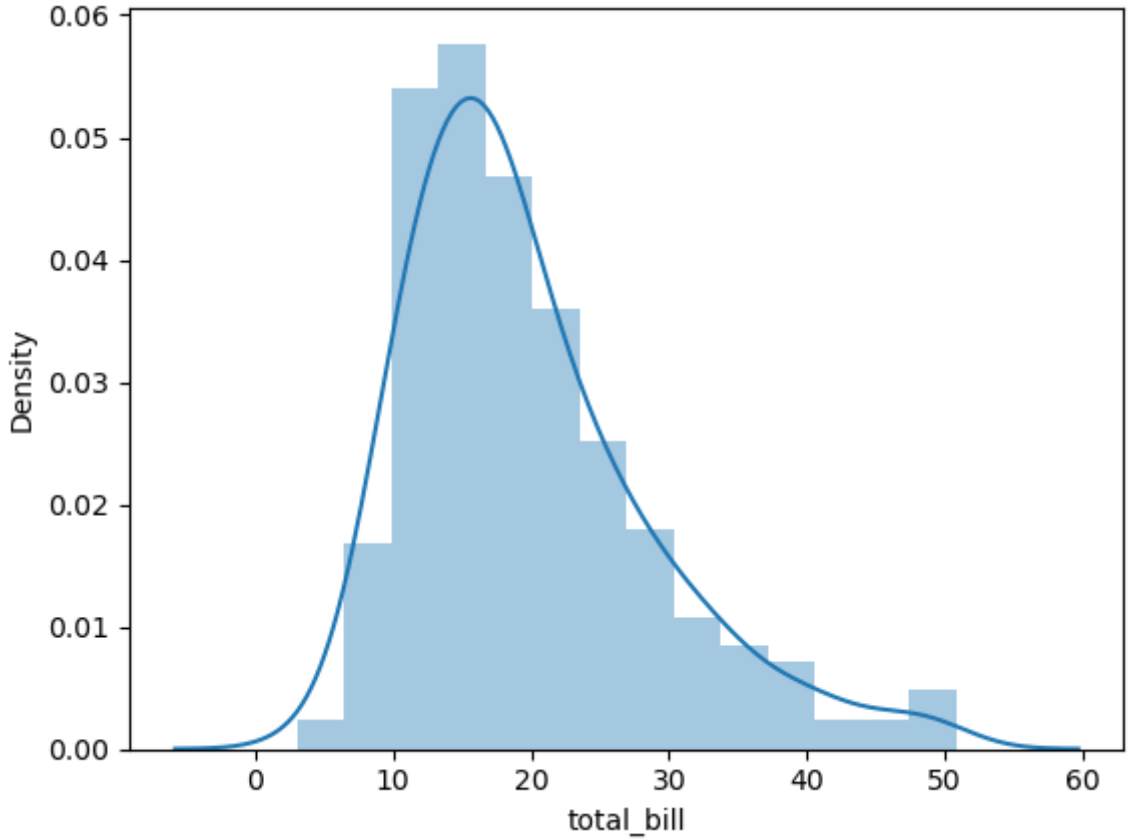
In [6]:
```
# sns.distplot(plotting name) applying on the 'total dataset'(tips and here,particular column-
#  ['total_bill']). This is called 'distplot' (output)

# Th Blue Line = KDE (KERNAL DENSITY ESTIMATOR)

# Point to Point(eg- dot. to 0) - We Call it as an a 'Bins'(Number of Bins)
```

In [26]:
```
sns.distplot(tips['total_bill'])
```

```
C:\Users\my pc\anaconda3\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated
function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level fun
ction with similar flexibility) or `histplot` (an axes-level function for histograms).
  warnings.warn(msg, FutureWarning)
```

Out[26]: <AxesSubplot:xlabel='total_bill', ylabel='Density'>



2. DISTPLOT : Removing 'KDE' (Blue line), declaring No.of Bins:

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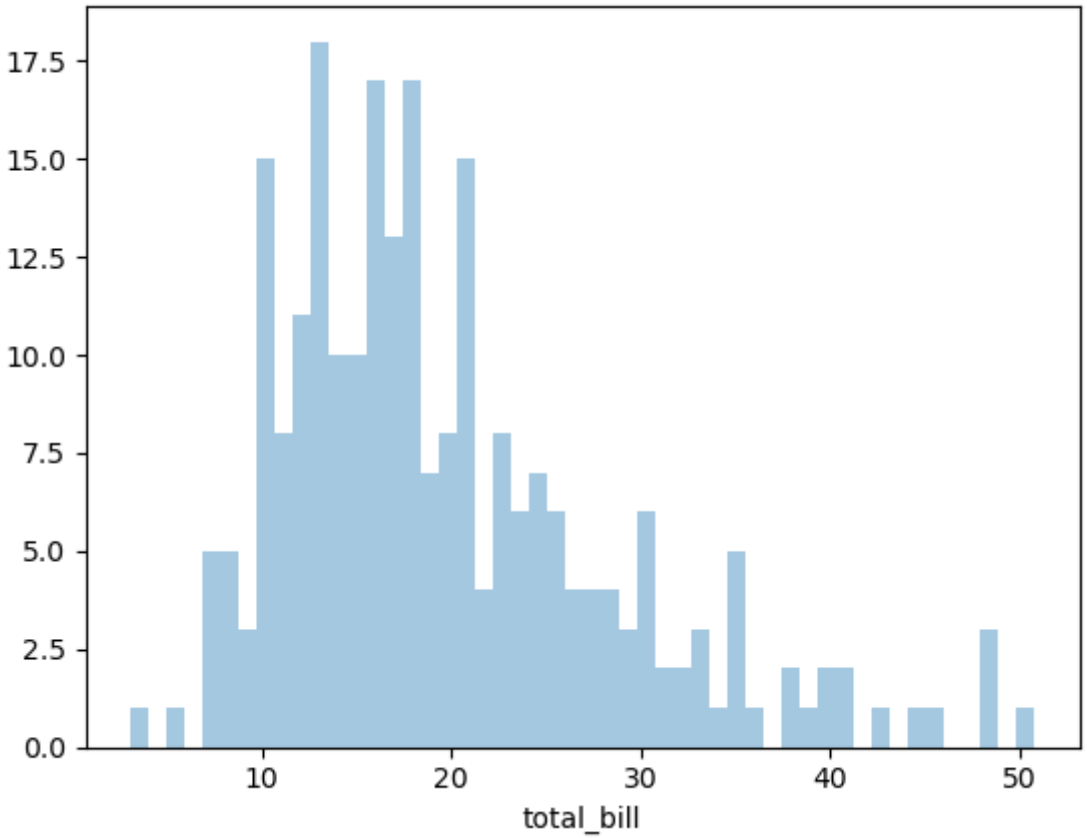
In [9]:
```
sns.distplot(tips['total_bill'], kde = False, bins = 50)
```

```
C:\Users\my pc\anaconda3\lib\site-packages\seaborn\distributions.py:2619: FutureWarning: `distplot` is a deprecated
function and will be removed in a future version. Please adapt your code to use either `displot` (a figure-level fun
ction with similar flexibility) or `histplot` (an axes-level function for histograms).
  warnings.warn(msg, FutureWarning)
```

Out[9]: <AxesSubplot:xlabel='total_bill'>



3. JOINT PLOT : V.IMP

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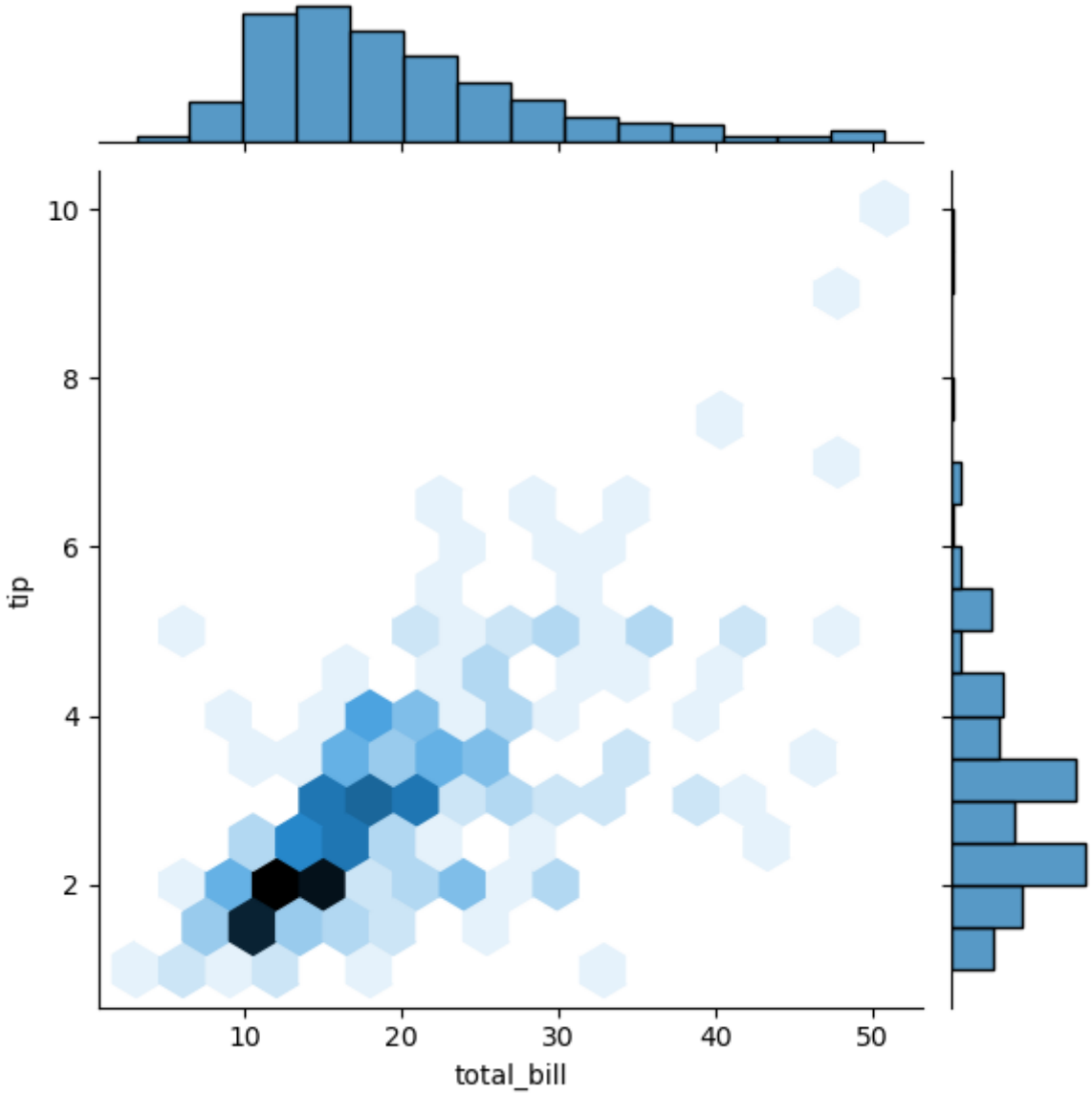
In [10]:
```
sns.jointplot(x ='total_bill', y = 'tip', data = tips, kind = 'hex')
```

Out[10]:
```
<seaborn.axisgrid.JointGrid at 0x29b458aa730>
```



4. PAIR PLOT : NUMERIC DATA :

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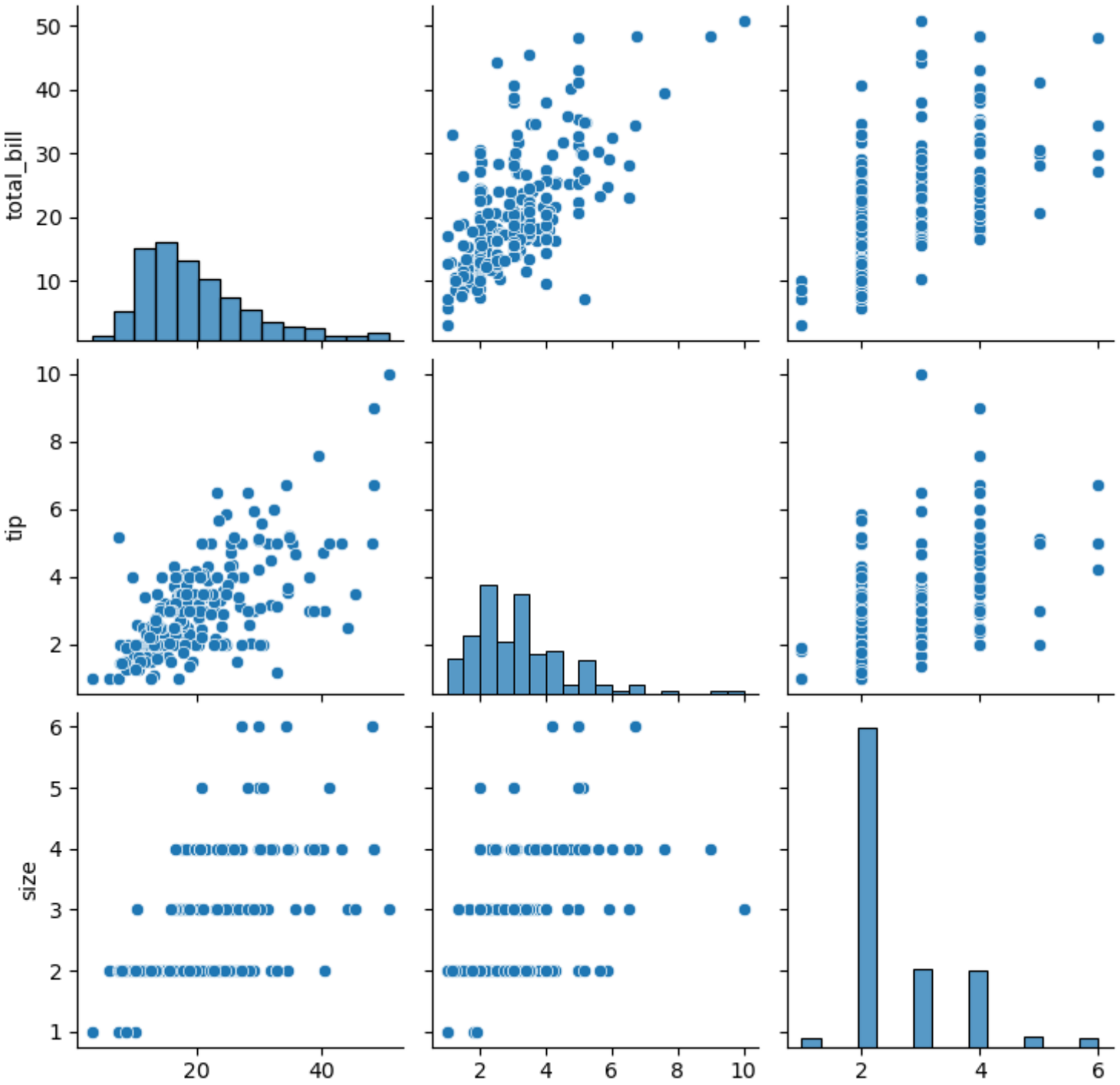
In [13]:
```
sns.pairplot(tips)
```

Out[13]:
```
<seaborn.axisgrid.PairGrid at 0x29b4639a220>
```


total_bill
tip
size
50
40
30
20
10
10
8
6
4
2
6
5
4
3
2
1
20
40
2
4
6
8
10
2
4
6

total_bill tip size

5. PAIR PLOT : Here we can Changing Something like -- hue = 'sex'(Gender i'm taking)

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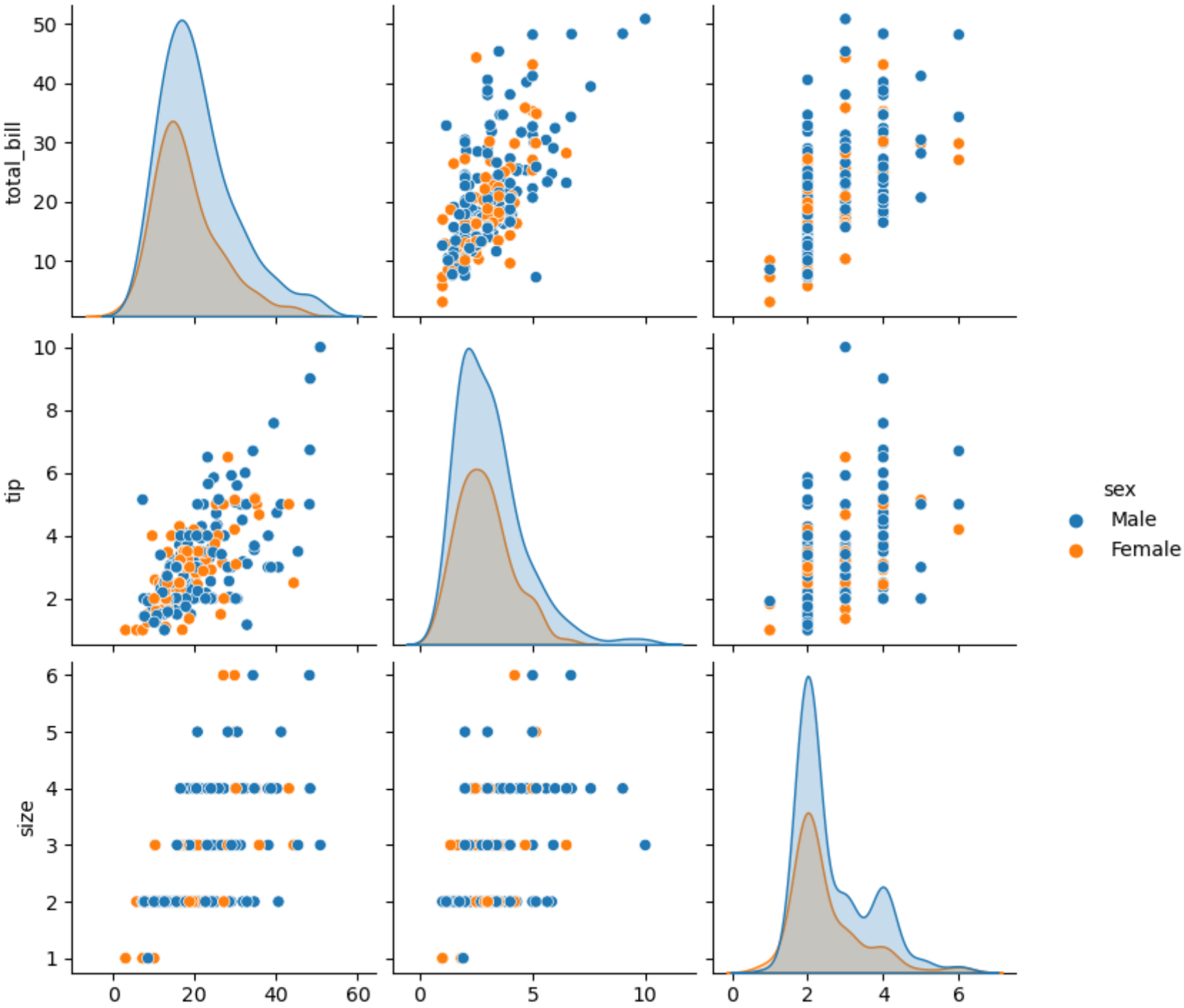
In [14]:
```
sns.pairplot(tips, hue ='sex')
```

Out[14]:
```
<seaborn.axisgrid.PairGrid at 0x29b4626b3d0>
```


total_bill
tip
size
sex
Male
Female

total_bill tip size

6. RUG PLOT :

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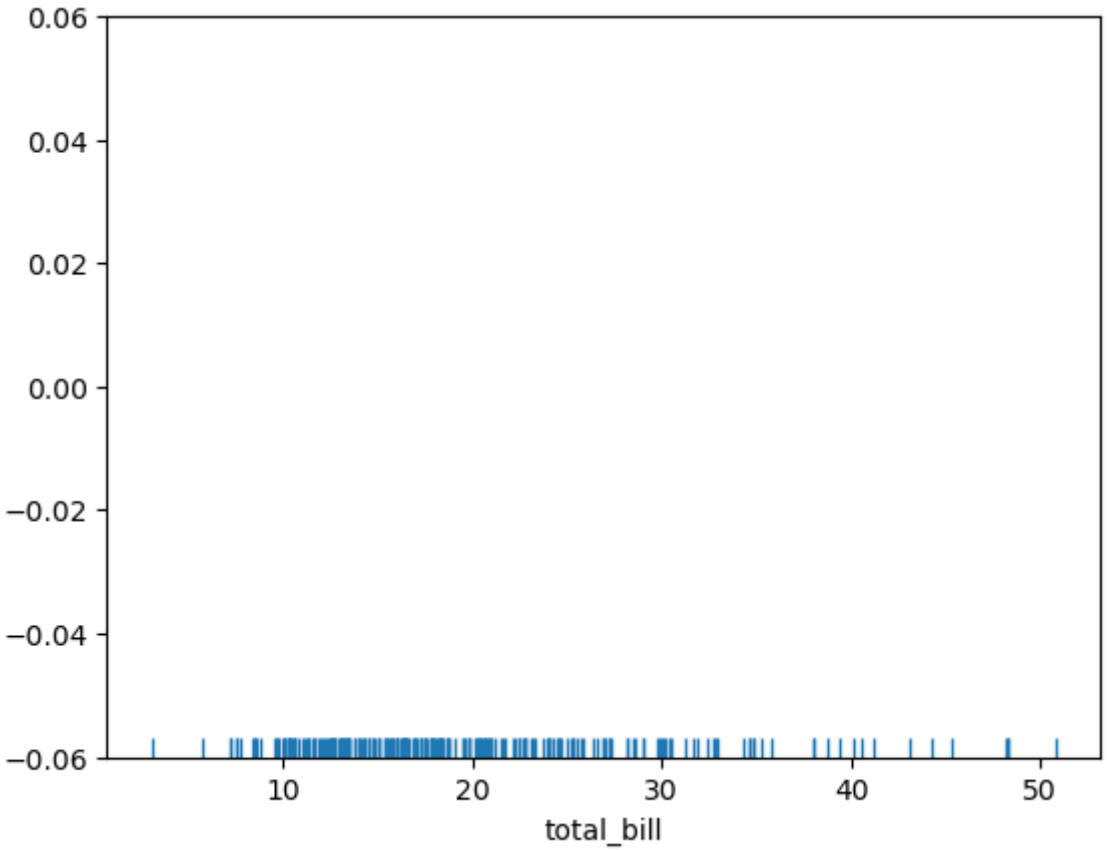
In [28]:
```
sns.rugplot(tips['total_bill'])
```

Out[28]:
```
<AxesSubplot:xlabel='total_bill'>
```



7. BAR PLOT : CATEGORICAL PLOT : IMP

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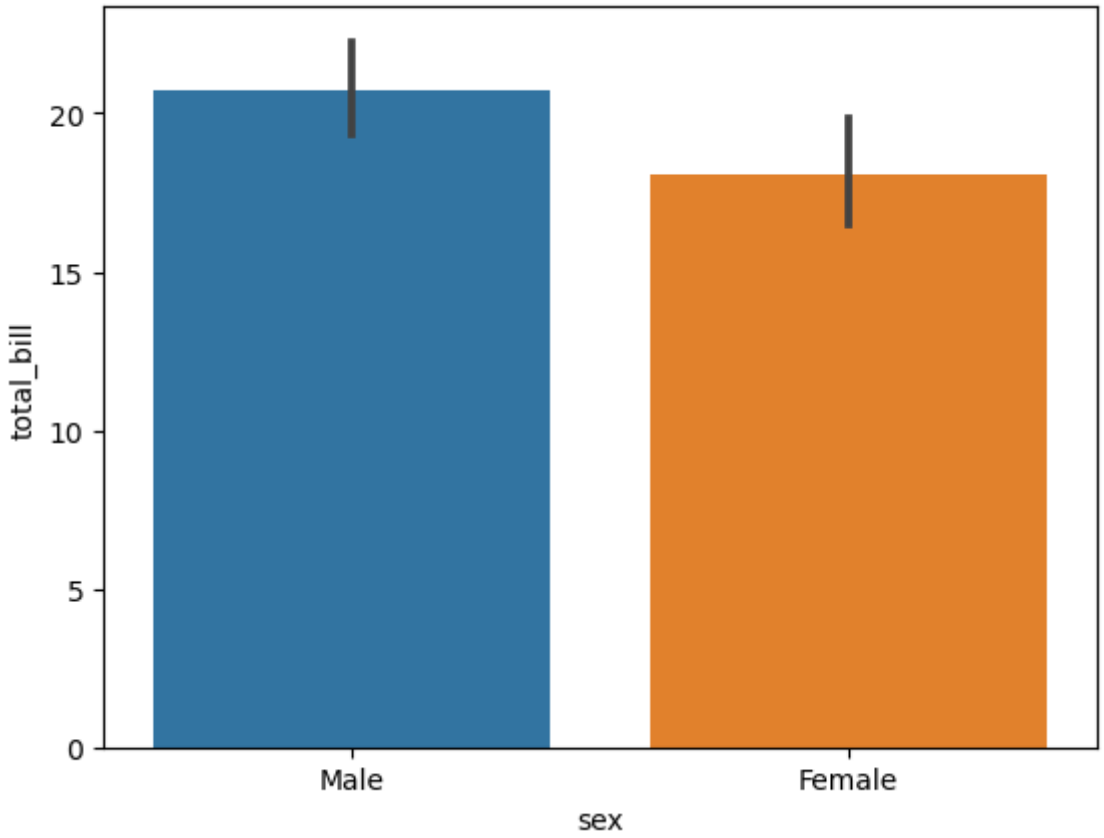
In [31]:
```
sns.barplot(x = 'sex', y = 'total_bill', data = tips)
```

Out[31]:
```
<AxesSubplot:xlabel='sex', ylabel='total_bill'>
```



8. COUNT PLOT :

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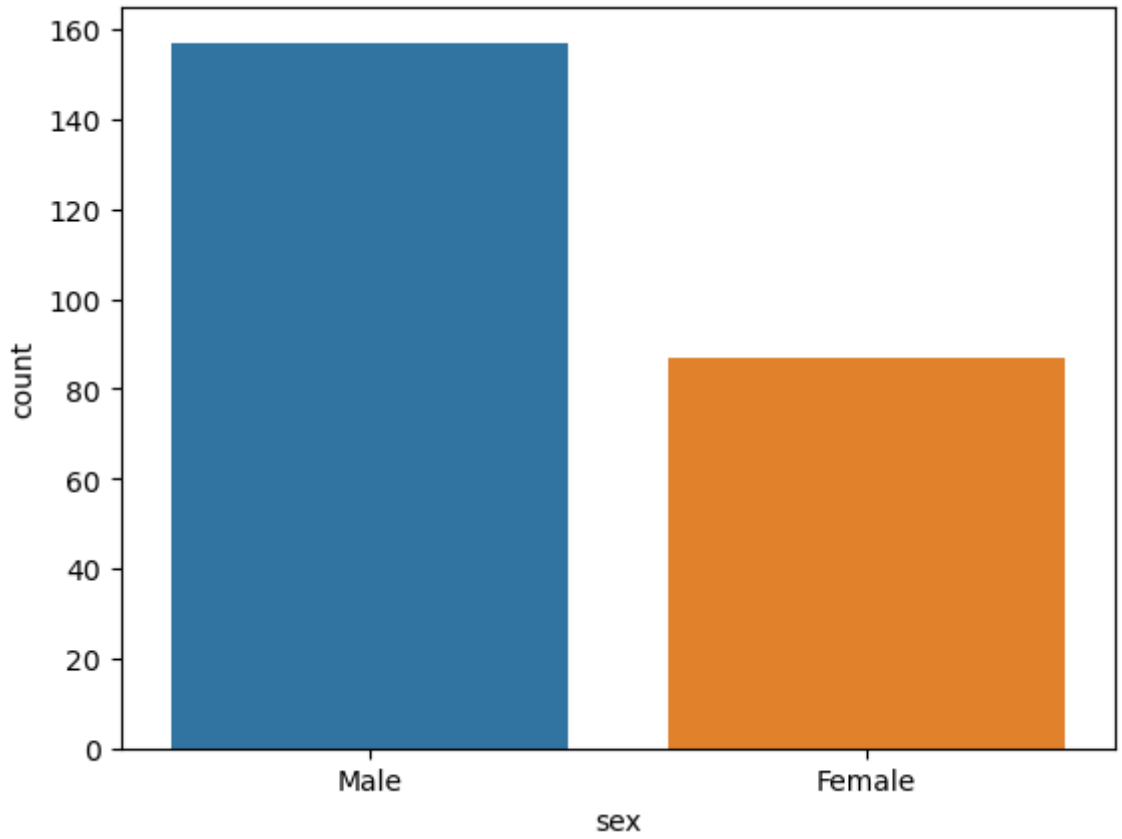
In [18]:
```
sns.countplot(x = 'sex', data = tips)
```

Out[18]:
```
<AxesSubplot:xlabel='sex', ylabel='count'>
```



9. BOX PLOT : V.IMP

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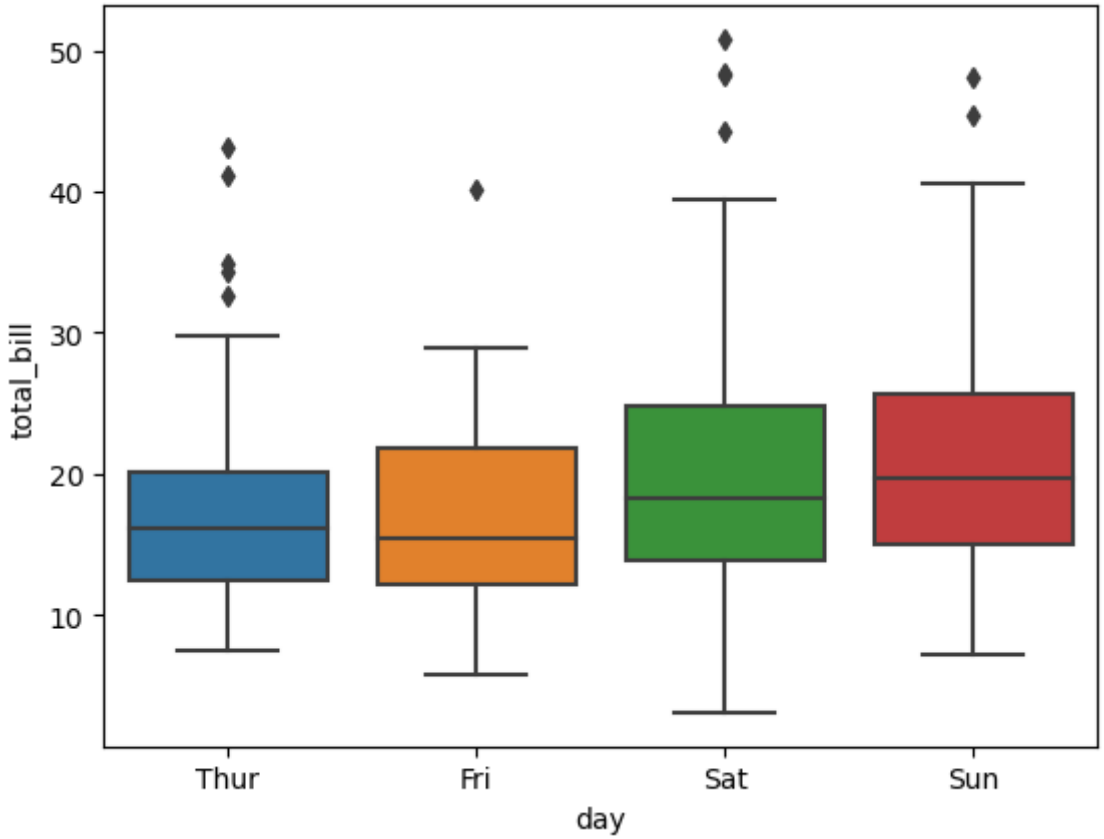
In [19]:
```
sns.boxplot(x = 'day', y = 'total_bill', data = tips)
```

Out[19]:
```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```



10. BOX PLOT : ADDING EXTRA PARAMETERS :

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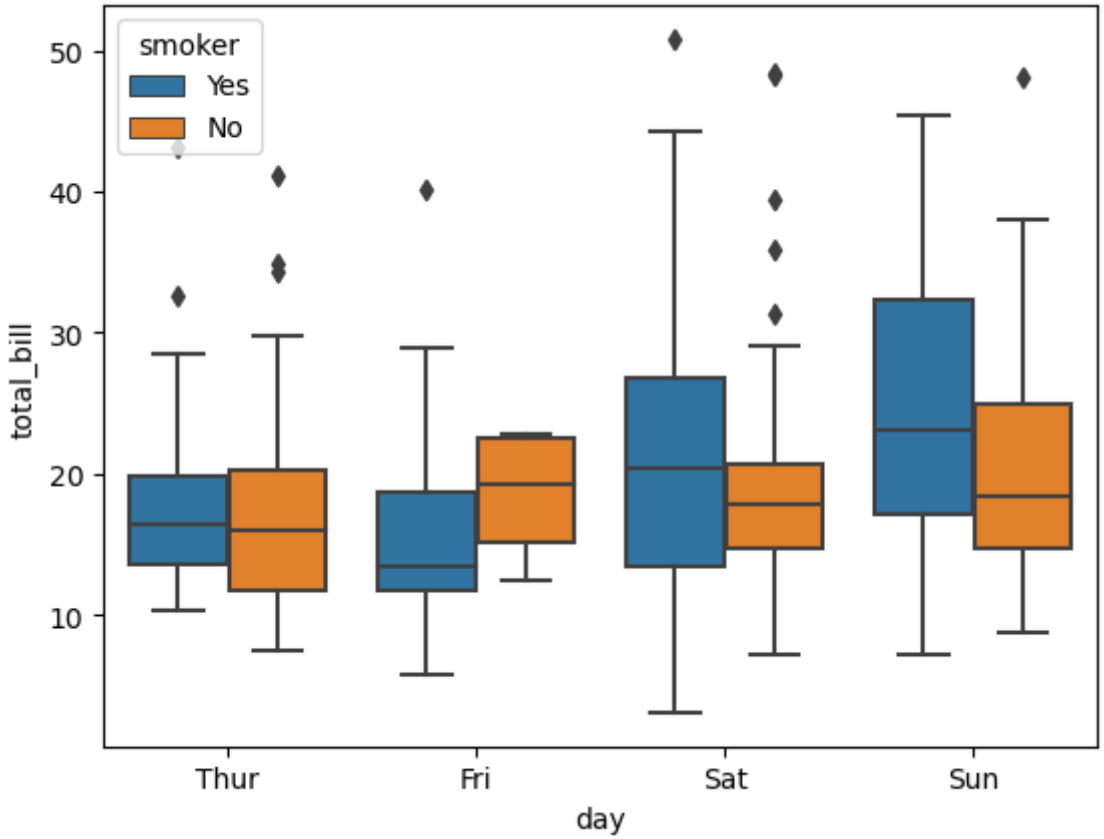
In [20]:
```
sns.boxplot(x = 'day', y = 'total_bill', data = tips, hue = 'smoker')
```

Out[20]:
```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```



11. VIOLIN PLOT :

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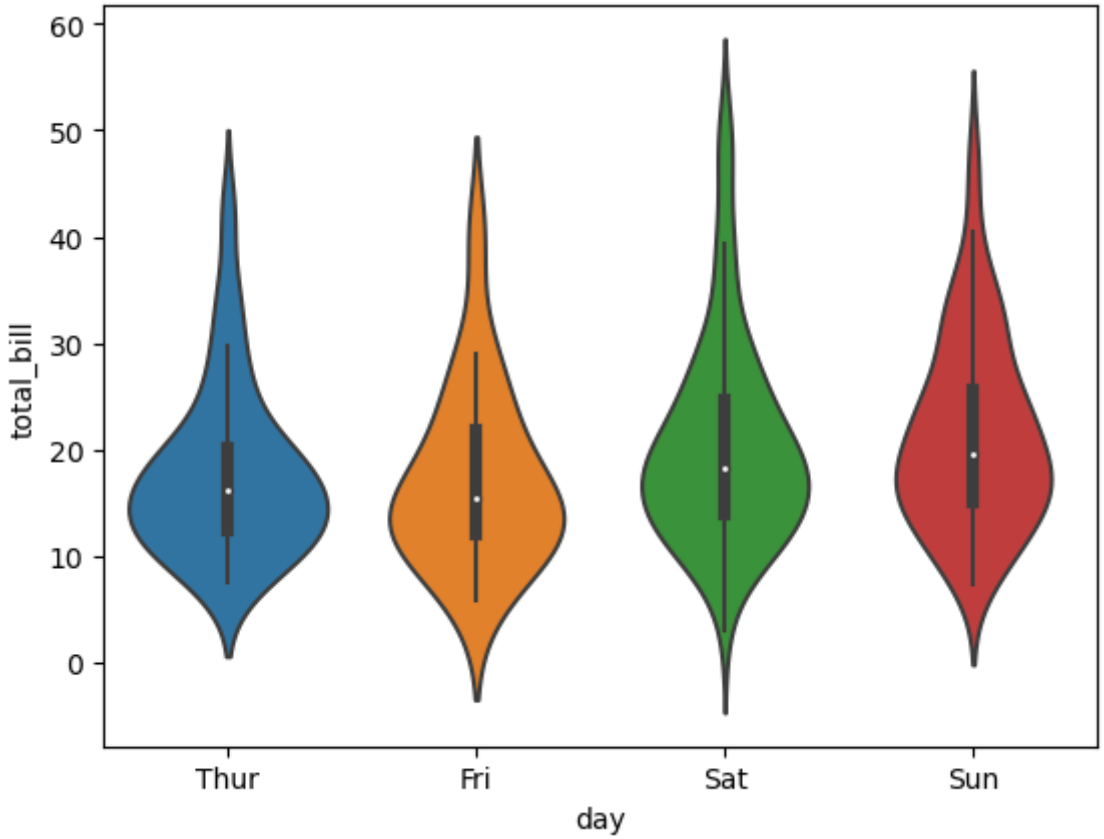
In [21]:
```
sns.violinplot(x = 'day', y = 'total_bill', data = tips)
```

Out[21]:
```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```



12. Indepth of VIOLIN PLOT : 'SWARM PLOT' : and ADDING COLOR to it :

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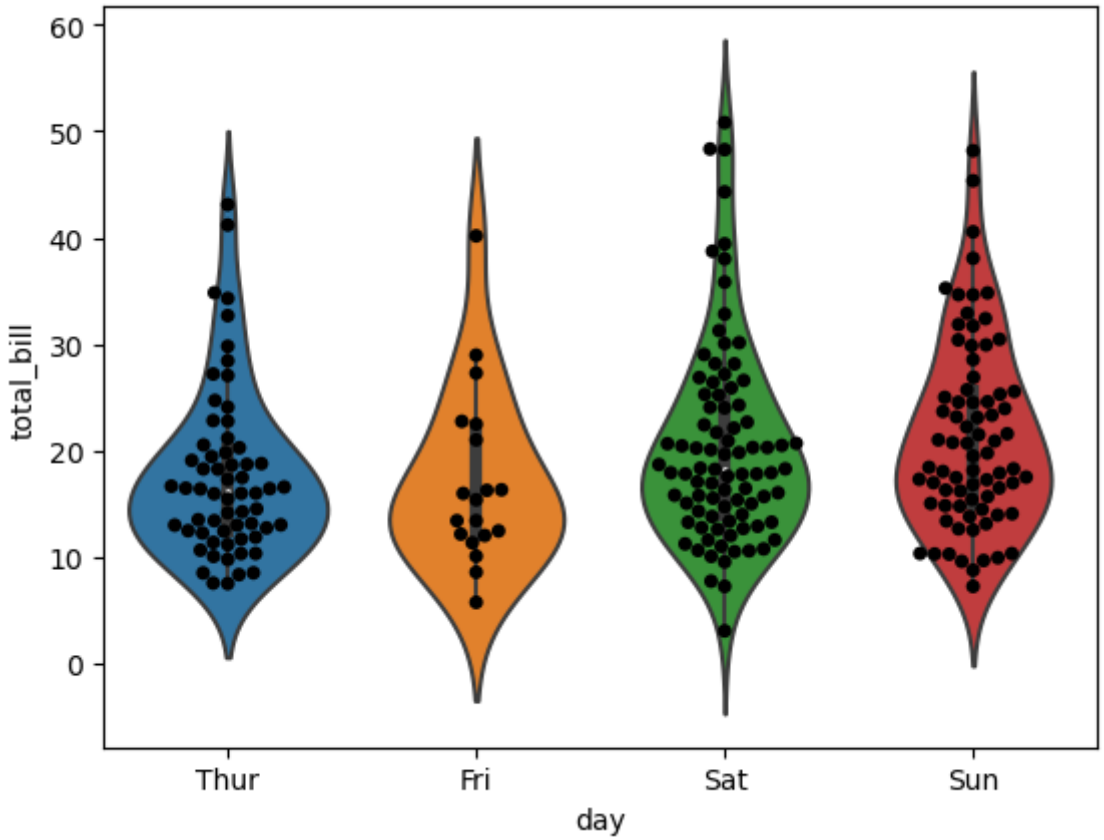
In [22]:
```
sns.violinplot(x = 'day', y = 'total_bill', data = tips)
sns.swarmplot(x = 'day', y = 'total_bill', data = tips, color = 'black')
```

Out[22]:
```
<AxesSubplot:xlabel='day', ylabel='total_bill'>
```



13. CO-RELATION : V.IMP

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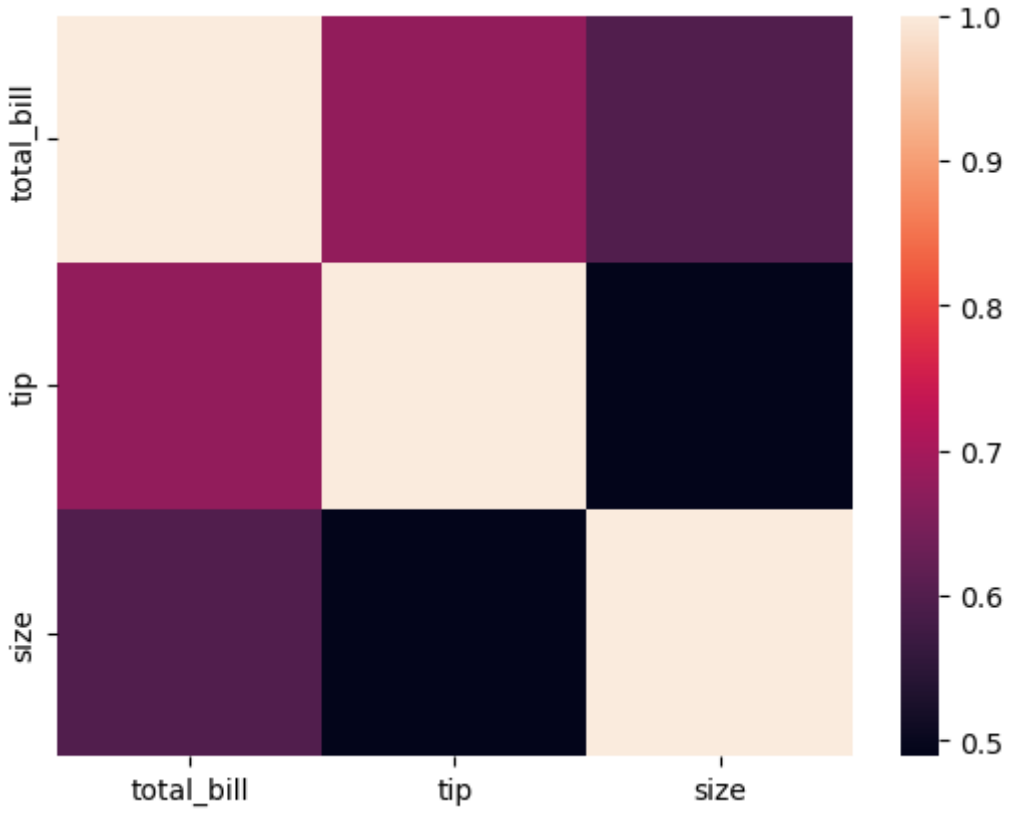
In [23]:
```
tc = tips.corr()
sns.heatmap(tc)
```

Out[23]: <AxesSubplot:>



14. CO-RELATION : KNOWING %'PERCENTAGE' OF C0-RELATION :

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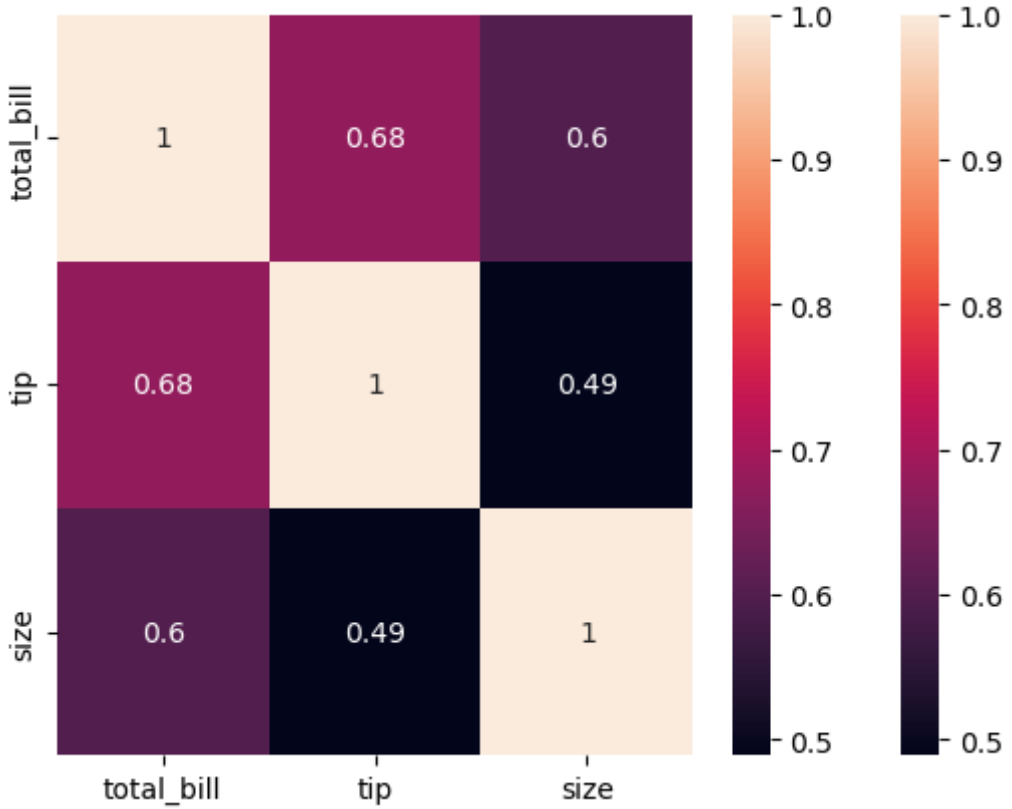
In [24]:
```
tc = tips.corr()
sns.heatmap(tc)
sns.heatmap(tc,annot = True)
```

Out[24]: <AxesSubplot:>



In [ ]: