In [6]:
```
import seaborn as sns
from scipy.stats import shapiro
import numpy as np
```

In [2]:
```
tips=sns.load_dataset("tips")
```

In [5]:
```
shapiro(tips["tip"])
```

```
(0.897811233997345, 8.20057563521992e-12)
```

In [7]:
```
np.round(shapiro(tips["tip"])[1],6)
```

```
0.0
```

In [8]:
```
tips.head()
```

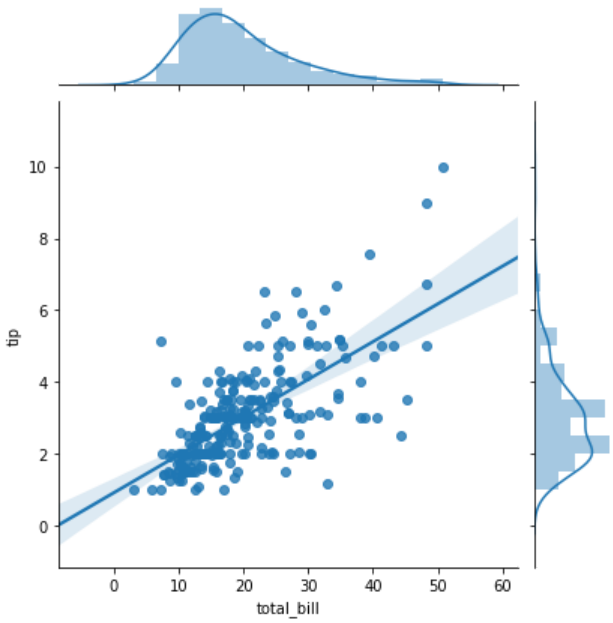
	total_bill	tip	sex	smoker	day	time	size
0	16.99	1.01	Female	No	Sun	Dinner	2
1	10.34	1.66	Male	No	Sun	Dinner	3
2	21.01	3.50	Male	No	Sun	Dinner	3
3	23.68	3.31	Male	No	Sun	Dinner	2
4	24.59	3.61	Female	No	Sun	Dinner	4

In [9]:
```
np.round(shapiro(tips["total_bill"])[1],2)
```

```
0.0
```

In [11]:
```
sns.jointplot(data=tips,x="total_bill",y="tip",kind="reg")
```

```
<seaborn.axisgrid.JointGrid at 0x131c2befc18>
```



In [12]:
```
np.corrcoef(tips["total_bill"],tips["tip"])
```

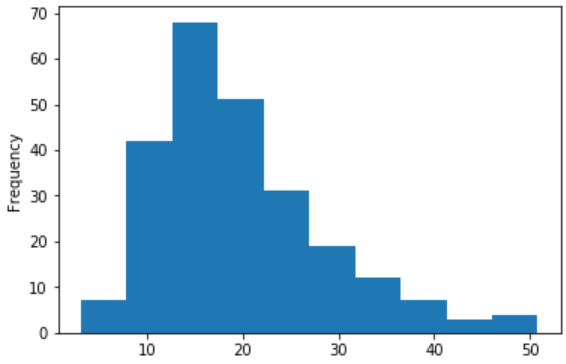
```
array([[1.        , 0.67573411],
       [0.67573411, 1.        ]])
```

In [15]:
```
tips["total_bill"].corr(tips["tip"])
```

```
0.6757341092113641
```

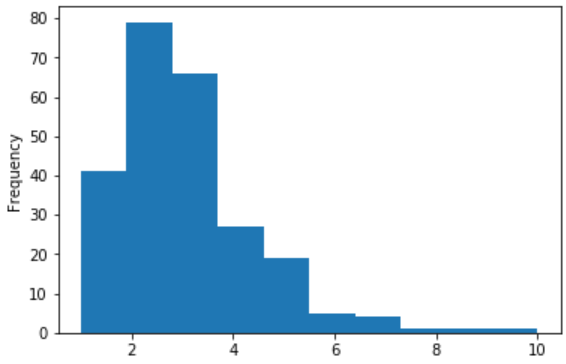
In [23]:
```
tips["total_bill"].plot.hist(bins=10)
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x131cb78c400>
```



In [25]:
```
tips["tip"].plot.hist()
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x131cb88c080>
```



In [27]:
```
tips["tip"].corr(tips["total_bill"],method="spearman")
```

```
0.6789681219001009
```

In [28]:
```
from scipy.stats.stats import pearsonr
```

In [30]:
```
pearsonr(tips["tip"],tips["total_bill"])
```

```
(0.6757341092113643, 6.692470646864041e-34)
```

In [31]:
```
np.round(pearsonr(tips["tip"],tips["total_bill"])[1],5)
```

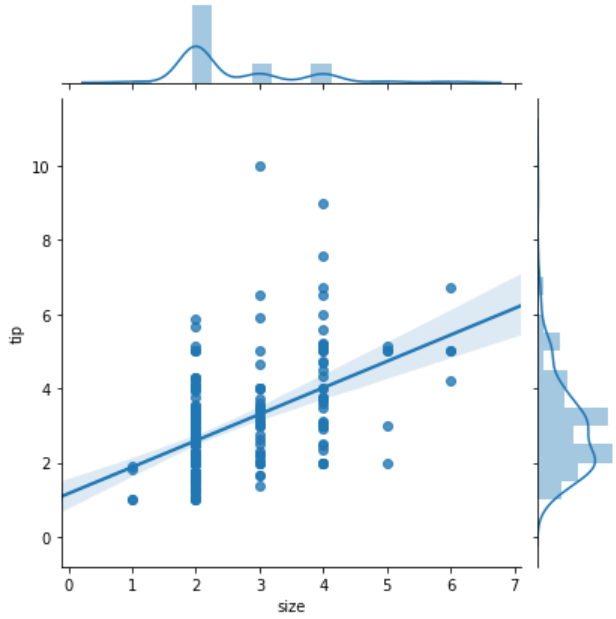
```
0.0
```

In [33]:
```
np.round(pearsonr(tips["tip"],tips["size"])[1],5)
```

```
0.0
```

In [36]:
```
sns.jointplot(x="size",y="tip",data=tips,kind="reg")
```

```
<seaborn.axisgrid.JointGrid at 0x131cb8c99e8>
```



In [37]:
```
tips["size"].corr(tips["tip"])
```

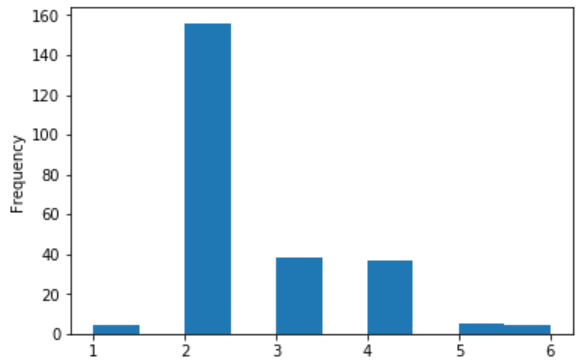
```
0.48929877523035775
```

In [39]:
```
np.round(shapiro(tips["size"])[1],5)
```

```
0.0
```

In [40]:
```
tips["size"].plot.hist()
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x131d05682e8>
```



In [41]:
```
import scipy.stats as stats
```

In [42]:
```
stats.pearsonr(tips["total_bill"],tips["tip"])
```

```
(0.6757341092113643, 6.692470646864041e-34)
```

In [ ]:
```
```