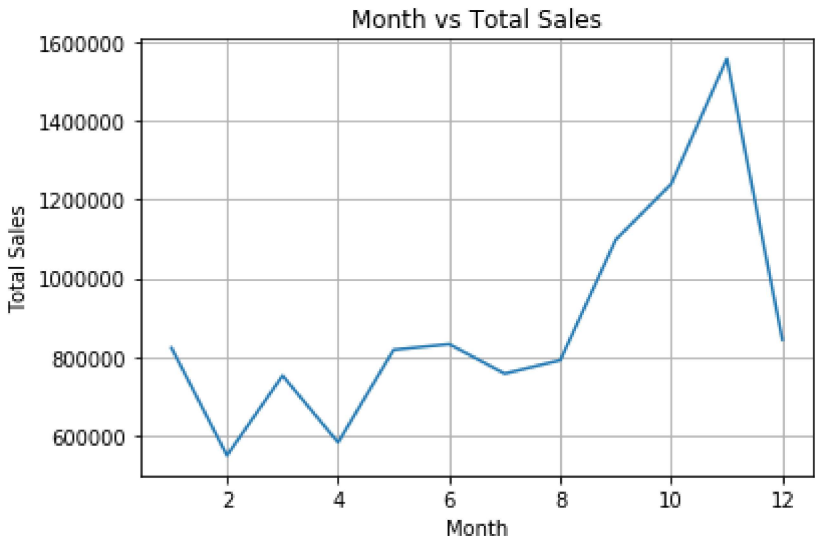
In [4]:
```
import pandas as pd
import matplotlib.pyplot as plt

#query1
df = pd.read_csv("BigMartSalesData.csv")
df_grouped_year = df.query("Year==2011").filter(["Month", "Amount"]).groupby([
"Month"], as_index=False).sum()
df_grouped_year
```

Out[4]:

	Month	Amount
0	1	822669.640
1	2	549134.460
2	3	752003.310
3	4	582318.451
4	5	817655.200
5	6	832231.670
6	7	757108.941
7	8	791173.020
8	9	1097467.722
9	10	1239237.260
10	11	1557236.410
11	12	843909.020

In [5]:
```
#Plot the total sales per month for the year 2011
x = df_grouped_year["Month"]
y = df_grouped_year["Amount"]

plt.plot(x,y)
plt.xlabel("Month")
plt.ylabel("Total Sales")
plt.title("Month vs Total Sales")
plt.grid()
```

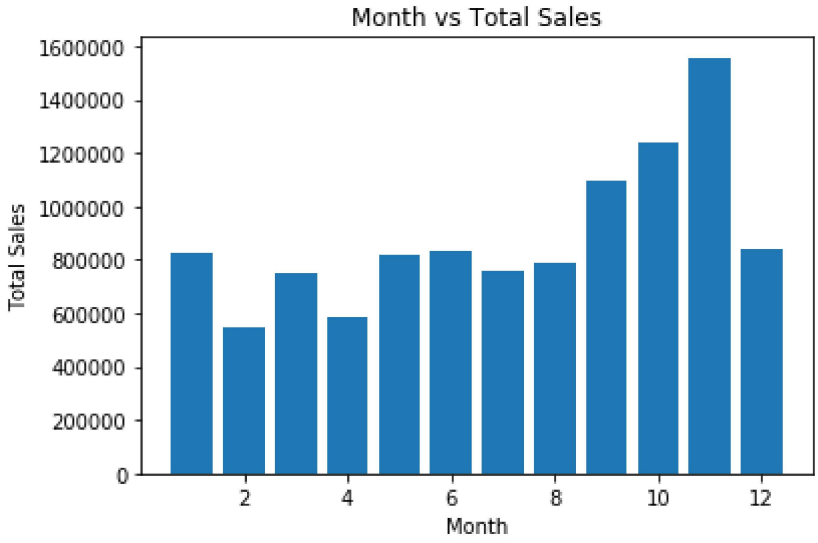


In [6]:
```
#How the total sales have increased over months in Year 2011 ?
#ans- Total Sales have increased till 11th month but got decreased in 12th mon
th
```

In [7]:
```
#Which month has lowest Sales?
#ans- By looking at the graph, we can clearly say that the sales is lowest in
 the 2nd month
```

In [9]:
```
#query2-
plt.bar(x,y)
plt.xlabel("Month")
plt.ylabel("Total Sales")
plt.title("Month vs Total Sales")
```

Out[9]:
```
Text(0.5, 1.0, 'Month vs Total Sales')
```



In [10]:
```
#Is Bar Chart Better to visualize than Simple Plot?
# Bar graphs are used to compare things between different groups or to track c
hanges over time.
# However, when trying to measure change over time, bar graphs are best when t
he changes are larger.
```

In [19]:

```
#query3
df_grouped_country = df.query("Year==2011").filter(["Country", "Amount"]).grou
pby(["Country"], as_index=False).sum()

plt.pie(df_grouped_country["Amount"], labels= df_grouped_country["Country"], a
utopct='%1.1f%%', shadow=True, startangle=90)
```

```
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```

```
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```
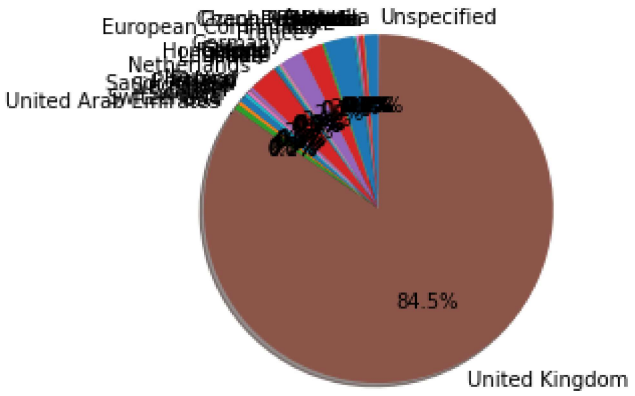



In [18]:
```
# Which Country contributes highest towards sales?
# United Kingdom
```

In [20]:
```
#query4-
invoice_amounts = df.filter(["InvoiceDate", "Amount"]).groupby("InvoiceDate",
as_index=False).sum()
invoice_amounts
```

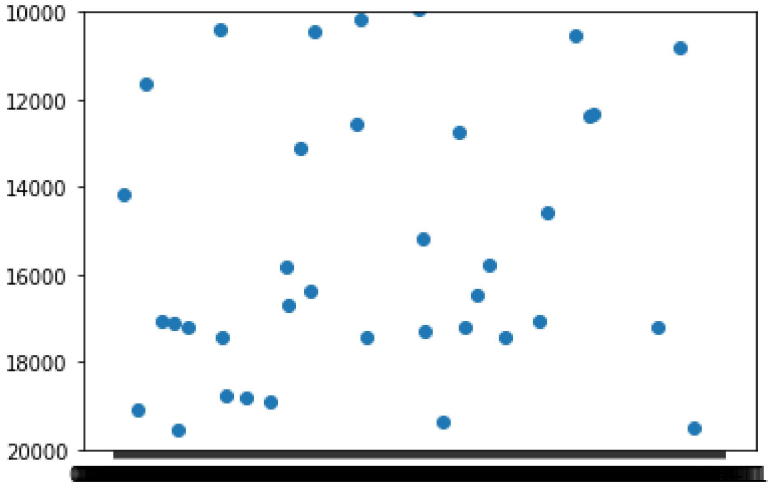
Out[20]:

	InvoiceDate	Amount
0	01-02-11	29636.76
1	01-03-11	27238.21
2	01-04-11	26943.24
3	01-05-11	6982.66
4	01-06-11	21000.18
...	...	...
300	31-03-11	37667.72
301	31-05-11	23435.16
302	31-07-11	33494.86
303	31-08-11	34625.68
304	31-10-11	66246.18

305 rows × 2 columns

In [21]:
```
plt.scatter(invoice_amounts["InvoiceDate"], invoice_amounts["Amount"])
plt.ylim(20000, 10000)
```

Out[21]: (20000, 10000)



In [ ]: