In [19]:
```
import pandas as pd
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from sklearn.metrics import mean_squared_error, mean_absolute_error
import matplotlib.pyplot as plt
```

In [20]:
```
df=pd.read_csv(r"C:\Users\mahes\OneDrive\Desktop\Auto Sales data.csv")
```

In [21]:
```
df
```

Out[21]:

	ORDERNUMBER	QUANTITYORDERED	PRICEEACH	ORDERLINENUMBER	SALES	OR
0	10107	30	95.70	2	2871.00	2
1	10121	34	81.35	5	2765.90	(
2	10134	41	94.74	2	3884.34	(
3	10145	45	83.26	6	3746.70	2
4	10168	36	96.66	1	3479.76	2
...	...	...	...	...	...	
2742	10350	20	112.22	15	2244.40	(
2743	10373	29	137.19	1	3978.51	3
2744	10386	43	125.99	4	5417.57	(
2745	10397	34	62.24	1	2116.16	2
2746	10414	47	65.52	9	3079.44	(

2747 rows × 20 columns

In [22]:
```
1 df.head()
```

Out[22]:

	ORDERNUMBER	QUANTITYORDERED	PRICEEACH	ORDERLINENUMBER	SALES	ORDER
0	10107	30	95.70	2	2871.00	24/0
1	10121	34	81.35	5	2765.90	07/0
2	10134	41	94.74	2	3884.34	01/0
3	10145	45	83.26	6	3746.70	25/0
4	10168	36	96.66	1	3479.76	28/1

In [42]:
```
1 df.isnull().sum
```

Out[42]:
```
<bound method NDFrame._add_numeric_operations.<locals>.sum of       ORDERN
UMBER  QUANTITYORDERED  PRICEEACH  ORDERLINENUMBER  SALES  \
0           False           False      False           False  False
1           False           False      False           False  False
2           False           False      False           False  False
3           False           False      False           False  False
4           False           False      False           False  False
...           ...             ...        ...             ...    ...
2742        False           False      False           False  False
2743        False           False      False           False  False
2744        False           False      False           False  False
2745        False           False      False           False  False
2746        False           False      False           False  False

      ORDERDATE  DAYS_SINCE_LASTORDER  STATUS  PRODUCTLINE   MSRP  \
0         False                False   False        False  False
1         False                False   False        False  False
2         False                False   False        False  False
3         False                False   False        False  False
4         False                False   False        False  False
...         ...                  ...     ...          ...    ...
2742      False                False   False        False  False
2743      False                False   False        False  False
2744      False                False   False        False  False
2745      False                False   False        False  False
2746      False                False   False        False  False

      PRODUCTCODE  CUSTOMERNAME  PHONE  ADDRESSLINE1   CITY  POSTALCODE  \
0           False         False  False         False  False       False
1           False         False  False         False  False       False
2           False         False  False         False  False       False
3           False         False  False         False  False       False
4           False         False  False         False  False       False
...           ...           ...    ...           ...    ...         ...
2742        False         False  False         False  False       False
2743        False         False  False         False  False       False
2744        False         False  False         False  False       False
2745        False         False  False         False  False       False
2746        False         False  False         False  False       False

      COUNTRY  CONTACTLASTNAME  CONTACTFIRSTNAME  DEALSIZE
0       False            False             False     False
1       False            False             False     False
2       False            False             False     False
3       False            False             False     False
4       False            False             False     False
...       ...              ...               ...       ...
2742    False            False             False     False
2743    False            False             False     False
2744    False            False             False     False
2745    False            False             False     False
2746    False            False             False     False

[2747 rows x 20 columns]>
```

In [29]:
```
features=df[['ORDERNUMBER','QUANTITYORDERED','PRICEEACH']]
target=df['SALES']
```

In [30]:
```
X_train, X_test, y_train, y_test = train_test_split(features, target, t
```

In [31]:
```
model = LinearRegression()
```

In [32]:
```
model.fit(X_train, y_train)
```

Out[32]:
```
LinearRegression()
```

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.
On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org.

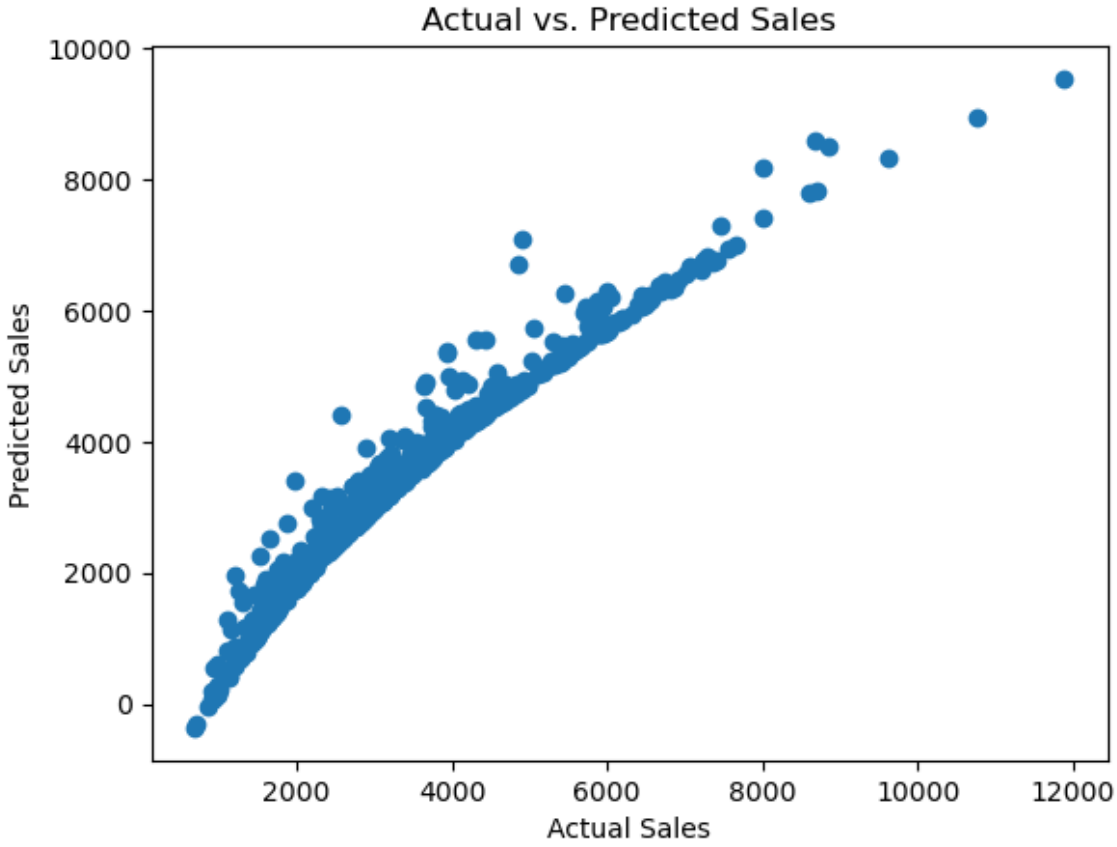
In [34]:
```
predictions = model.predict(X_test)
```

In [35]:
```
mse = mean_squared_error(y_test, predictions)
mae = mean_absolute_error(y_test, predictions)
```

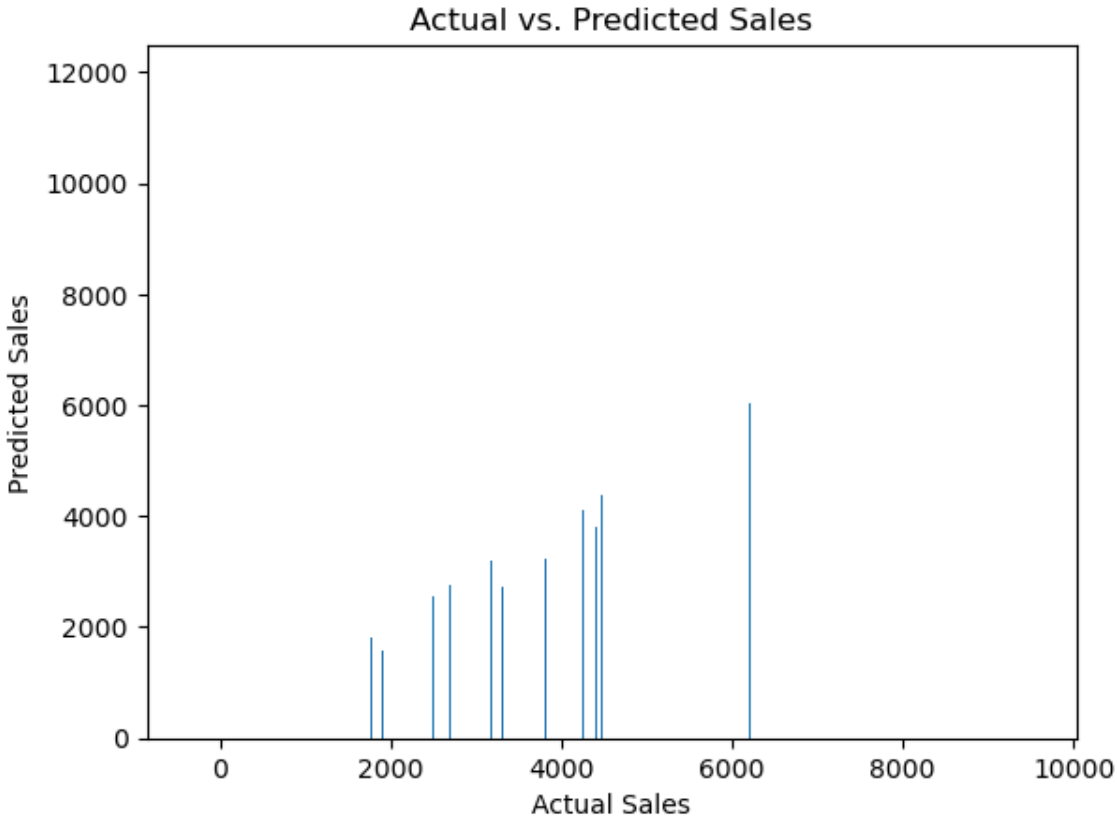
In [39]:
```
print(f'Mean Squared Error: {mse}')
print(f'Mean Absolute Error: {mae}')
```

```
Mean Squared Error: 169029.65645629665
Mean Absolute Error: 274.8543669627184
```

In [40]:
```
plt.scatter(y_test, predictions)
plt.xlabel('Actual Sales')
plt.ylabel('Predicted Sales')
plt.title('Actual vs. Predicted Sales')
plt.show()
```



In [52]:
```
1 import matplotlib.pyplot as plt
2 %matplotlib inline
3 plt.bar(predictions, y_test)
4 plt.xlabel('Actual Sales')
5 plt.ylabel('Predicted Sales')
6 plt.title('Actual vs. Predicted Sales')
7 plt.show()
```



In [ ]:
```
1
```