

Program:

```
import pandas as pd

from sklearn.linear_model import LinearRegression

from sklearn.model_selection import train_test_split

from sklearn.preprocessing import OneHotEncoder

from sklearn.compose import ColumnTransformer

import seaborn as sns

import matplotlib.pyplot as plt

df=pd.read_csv('Exp 2.csv')

x=df[['Bedrooms', 'Size', 'Age', 'Zipcode']]

y=df['Selling Price']

ct=ColumnTransformer(transformers=[('encoder', OneHotEncoder(), ['Zipcode'])],remainder='passthrough')

xen=ct.fit_transform(x)

xtr,xte,ytr,yte=train_test_split(xen,y,test_size=0.2,random_state=42)

model=LinearRegression()

model.fit(xtr,ytr)

ypr=model.predict(xte)

ypr

coefficients=model.coef_

intercept=model.intercept_

print("Coefficients:",coefficients)

print("Intercept:",intercept)

plt.figure(figsize=(8,6))

sns.scatterplot(x=yte,y=ypr,color='blue',s=100)

plt.plot([min(yte),max(yte)],[min(yte),max(yte)],'r--')

plt.xlabel("Actual Selling Price")

plt.ylabel("Predicted Selling Price")

plt.title("Actual vs Predicted House Price")

plt.grid(True)
```

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plt.tight_layout()

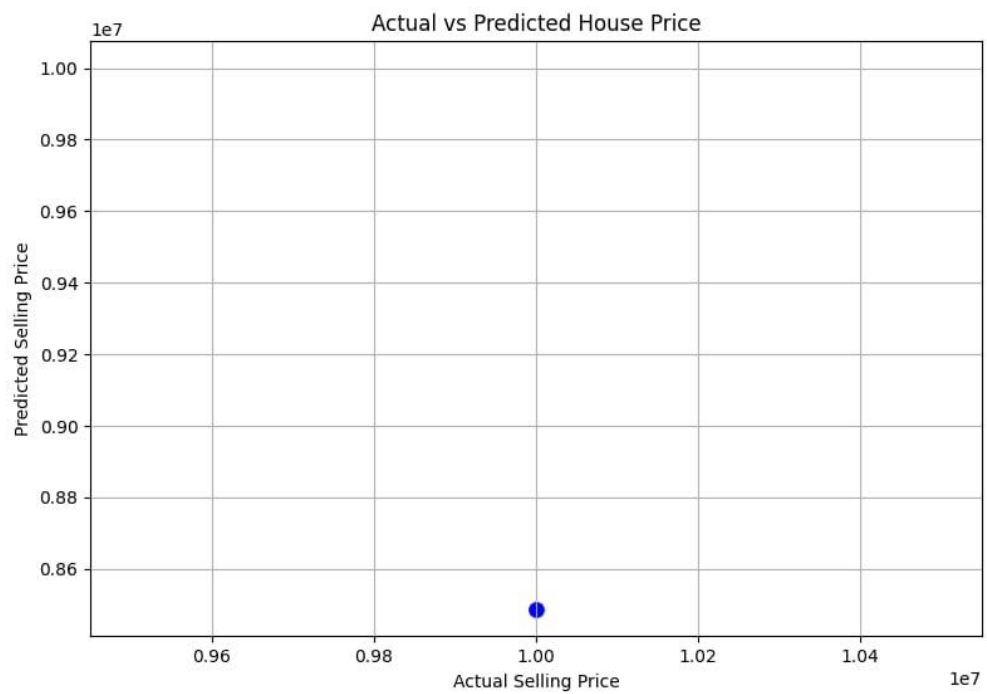
plt.show()

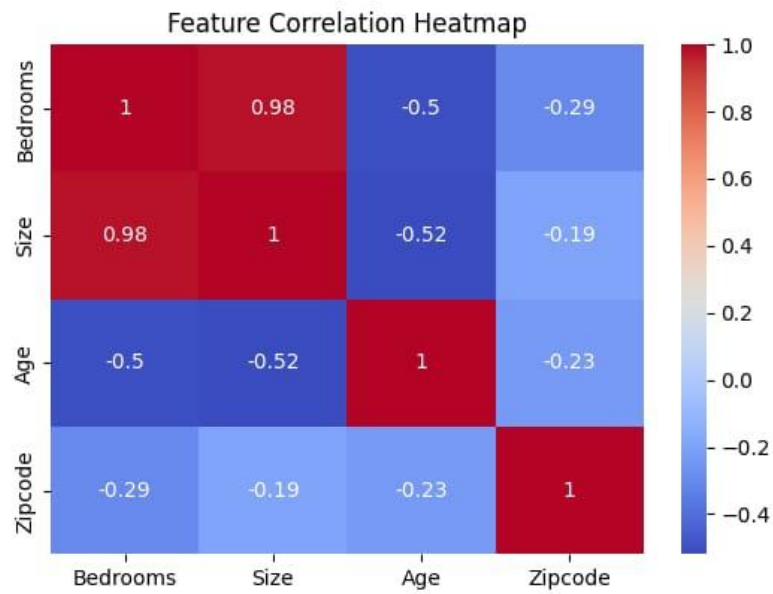
sns.heatmap(x.corr(),annot=True,cmap="coolwarm")

plt.title("Feature Correlation Heatmap")

plt.show()
```

output:





```
===== RESTART: /home/kcet/exp 2.py =====  
Coefficients: [-4.50115857e+04  7.27595761e-12  4.50115857e+04 -5.20591965e+04  
              2.84164736e+03  7.37528964e+04]  
Intercept: 1149129.9786854777  
>>>
```