

Program:

```
import pandas as pd

from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
import matplotlib.pyplot as plt

from sklearn.preprocessing import OneHotEncoder
from sklearn.compose import ColumnTransformer

import seaborn as sns

df = pd.read_csv('bed.csv')

x = df[['Bedroom','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)

print(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")
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plt.ylabel("Predicted Selling price")
plt.title("Actual Vs Predicted House Prices")
plt.grid(True)
plt.tight_layout()
plt.show()

sns.heatmap(x.corr(),annot=True,cmap="coolwarm")
plt.title("Feature Correlation Heatmap")
plt.show()
```

Output:

