In [1]:
```
import pandas as pd
```

In [2]:
```
import numpy as np
```

In [3]:
```
from sklearn.model_selection import train_test_split
```

In [4]:
```
from sklearn.linear_model import LinearRegression
```

In [5]:
```
from sklearn.metrics import mean_squared_error, r2_score
```

In [6]:
```
data = pd.read_csv("C:/Users/SAI/OneDrive/Desktop/Data Science/my experiments/Housing/H
```

In [7]:
```
print(data.head())
```

```
      price  area  bedrooms  bathrooms  stories mainroad guestroom basement  \
0  13300000  7420         4          2        3      yes        no       no
1  12250000  8960         4          4        4      yes        no       no
2  12250000  9960         3          2        2      yes        no      yes
3  12215000  7500         4          2        2      yes        no      yes
4  11410000  7420         4          1        2      yes       yes      yes

  hotwaterheating airconditioning  parking prefarea furnishingstatus
0              no             yes        2      yes        furnished
1              no             yes        3       no        furnished
2              no              no        2      yes   semi-furnished
3              no             yes        3      yes        furnished
4              no             yes        2       no        furnished
```

In [8]:
```
print(data.isnull().sum())
```

```
price               0
area                0
bedrooms            0
bathrooms           0
stories             0
mainroad            0
guestroom           0
basement            0
hotwaterheating     0
airconditioning     0
parking             0
prefarea            0
furnishingstatus    0
dtype: int64
```

In [9]:
```
data = pd.get_dummies(data, columns=['mainroad', 'guestroom', 'basement', 'hotwaterheat
```

In [10]:
```
X = data.drop('price', axis=1)
y = data['price']
```

In [11]:
```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2, random_state=4
```

In [12]:
```
model = LinearRegression()
model.fit(X_train, y_train)
```

Out[12]:
```
LinearRegression()
```

In [13]:
```
y_pred = model.predict(X_test)
```

In [14]:
```
mse = mean_squared_error(y_test, y_pred)
r2 = r2_score(y_test, y_pred)
```

In [15]:
```
print(f'Mean Squared Error: {mse}')
print(f'R-squared Score: {r2}')
```

```
Mean Squared Error: 1754318687330.6643
R-squared Score: 0.6529242642153184
```

In [16]:
```
from sklearn.tree import DecisionTreeRegressor
```

In [17]:
```
model = DecisionTreeRegressor()
model.fit(X_train, y_train)
```

Out[17]:
```
DecisionTreeRegressor()
```

In [18]:
```
y_pred = model.predict(X_test)
```

In [19]:
```
mse = mean_squared_error(y_test, y_pred)
r2 = r2_score(y_test, y_pred)
```

In [20]:
```
print(f'Mean Squared Error: {mse}')
print(f'R-squared Score: {r2}')
```

```
Mean Squared Error: 2944026541284.404
R-squared Score: 0.417551562686329
```

In [28]:
```
area = float(input("Enter the area: "))
bedrooms = int(input("Enter the number of bedrooms: "))
bathrooms = int(input("Enter the number of bathrooms: "))
stories = int(input("Enter the number of stories: "))
mainroad = int(input("Is it near the main road? (1 for Yes, 0 for No): "))
guestroom = int(input("Does it have a guestroom? (1 for Yes, 0 for No): "))
basement = int(input("Does it have a basement? (1 for Yes, 0 for No): "))
hotwaterheating = int(input("Does it have hot water heating? (1 for Yes, 0 for No): "))
airconditioning = int(input("Does it have air conditioning? (1 for Yes, 0 for No): "))
parking = int(input("Enter the number of parking spaces: "))
prefarea = int(input("Is it in a preferred area? (1 for Yes, 0 for No): "))
furnishingstatus = int(input("Enter the furnishing status (1 for Furnished, 0 for Unfur

new_instance = pd.DataFrame([[area, bedrooms, bathrooms, stories, mainroad, guestroom,
                              columns=['area', 'bedrooms', 'bathrooms', 'stories', 'main

predicted_price = model.predict(new_instance)

print(f'The predicted price for the given attributes is: {predicted_price[0]}')
```

```
Enter the area: 7155
Enter the number of bedrooms: 3
Enter the number of bathrooms: 2
Enter the number of stories: 1
Is it near the main road? (1 for Yes, 0 for No): 1
Does it have a guestroom? (1 for Yes, 0 for No): 1
Does it have a basement? (1 for Yes, 0 for No): 1
Does it have hot water heating? (1 for Yes, 0 for No): 0
Does it have air conditioning? (1 for Yes, 0 for No): 1
Enter the number of parking spaces: 2
Is it in a preferred area? (1 for Yes, 0 for No): 0
Enter the furnishing status (1 for Furnished, 0 for Unfurnished): 0
The predicted price for the given attributes is: 7210000.0
```

In [ ]: