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Artificial Intelligence
Practical 6
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Practical 6

Q1) Predict the price of a house using Linear Regression.

Ans:

p6_linear_regression.py

```
"""
p6_linear_regression.py
Author: Jagrut Gala
Date: 28-08-2021
Practical: 6
Objective: Predict the price of a house  using Linear Regression.
"""

import matplotlib.pyplot as plt
import numpy as np
from sklearn import datasets, linear_model
import pandas as pd
import io
from pathlib import Path

p= Path(__file__).parent/ "Housing.xlsx"
fio= io.open(p, "rb")
df = pd.read_excel(fio)
print(df)
Y = np.array(df['price']).reshape(1, -1)
X = np.array(df['tsft']).reshape(1, -1)
# print(f"Shapes: {X.shape} {Y.shape}")
# # Plot outputs
plt.scatter(X, Y)
plt.title('Test Data')
plt.xlabel('Size')
plt.ylabel('Price')
plt.xticks(())
plt.yticks(())
# # Create linear regression object
regr = linear_model.LinearRegression()
# # Train the model using the training sets
regr.fit(X, Y)
# # Plot outputs
```

```
plt.plot(X, regr.predict(X), color='red',linewidth=3)
plt.show()
```

```
(ai) C:\MyStuff\College Stuff\SEM V\Artificial Intelligence\Practicals\practical_6>py p6_linear_regression.py
      price  tsft
0   5000000   800
1   6000000   900
2   7000000  1000
3   8000000  1100
4   9000000  1200
5  10000000  1300
6  11000000  1400
7  12000000  1500
8  13000000  1600
9  14000000  1700
```

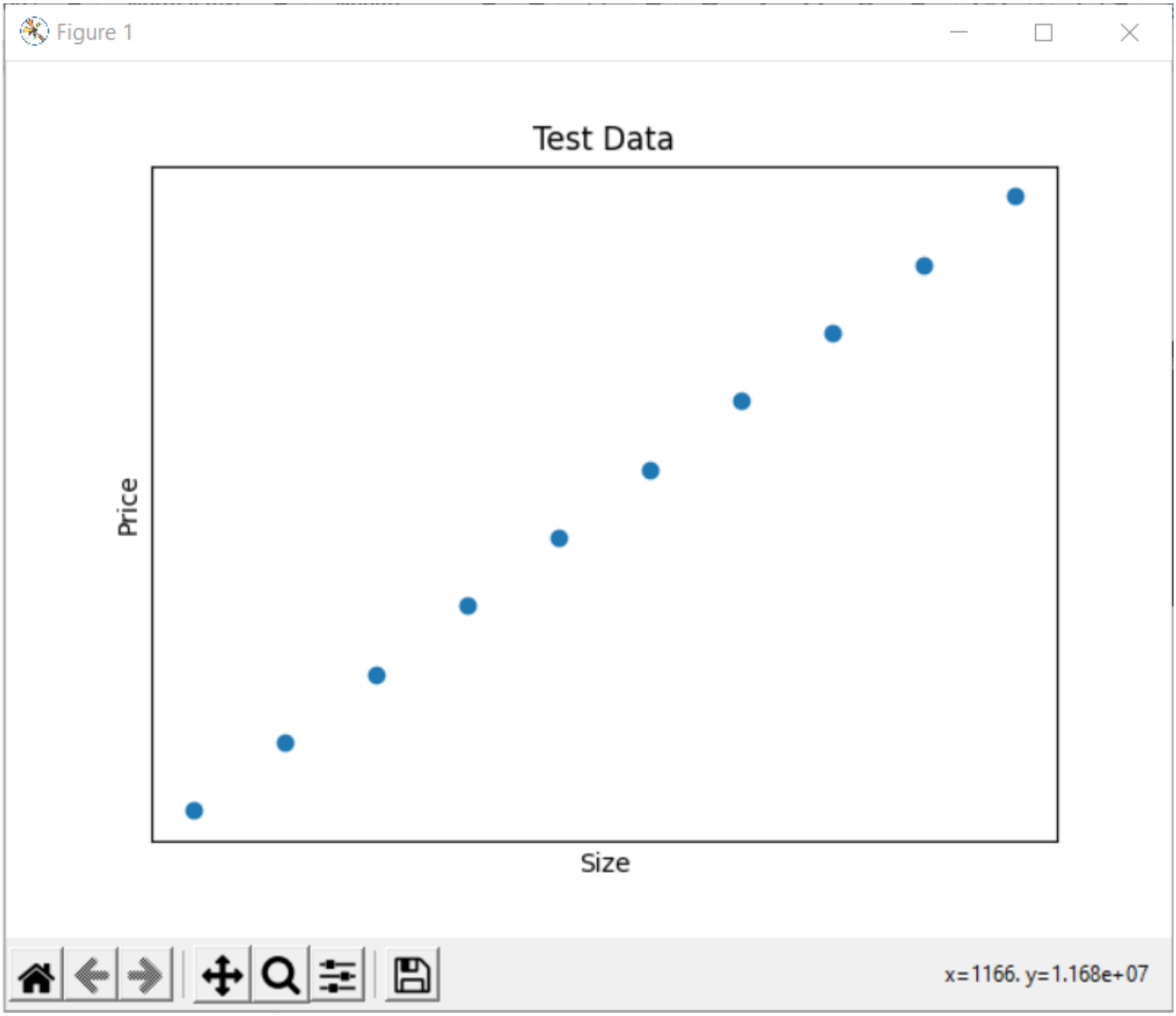
Figure 1
Test Data
Price
Size
x=1166. y=1.168e+07