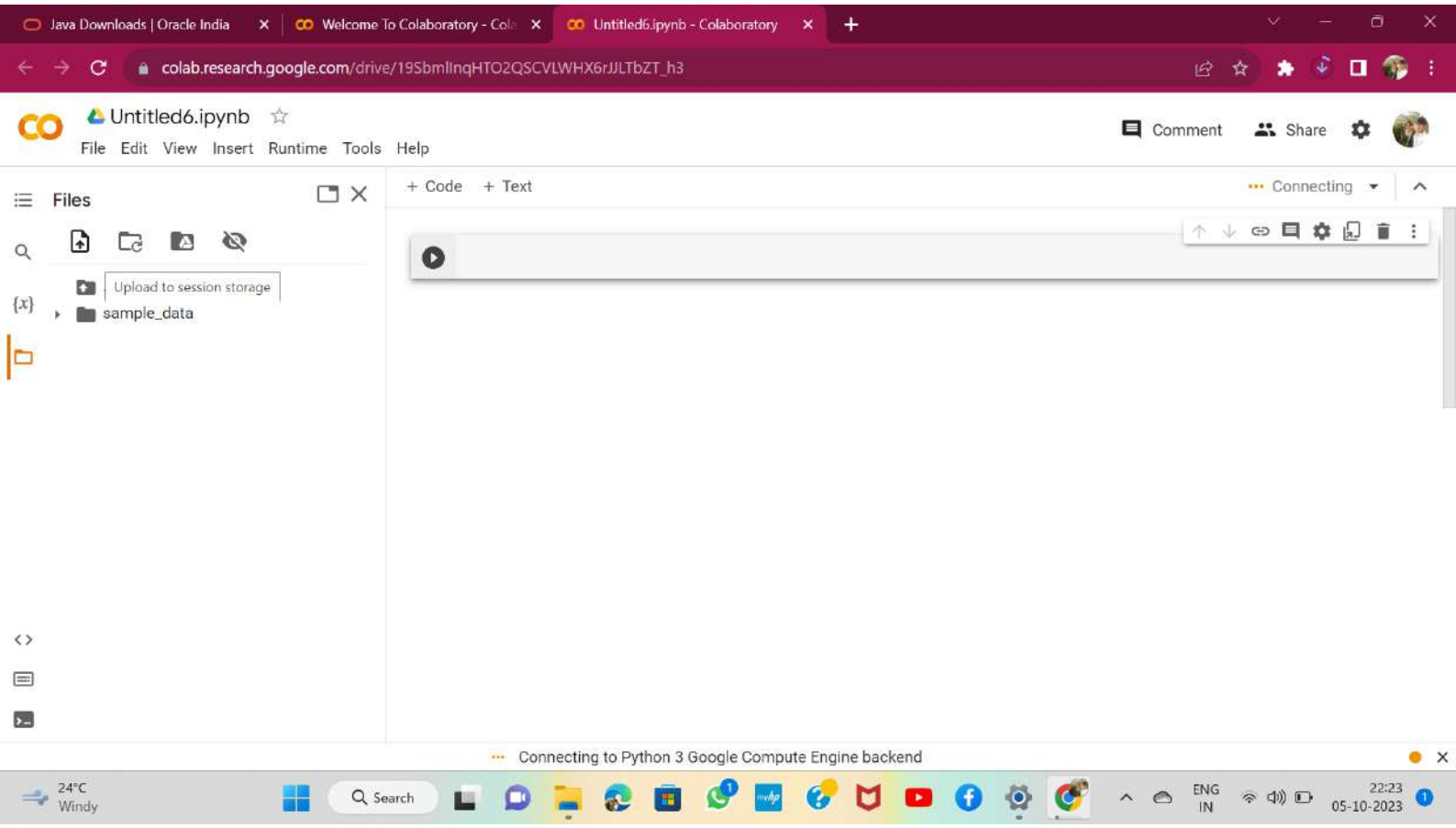
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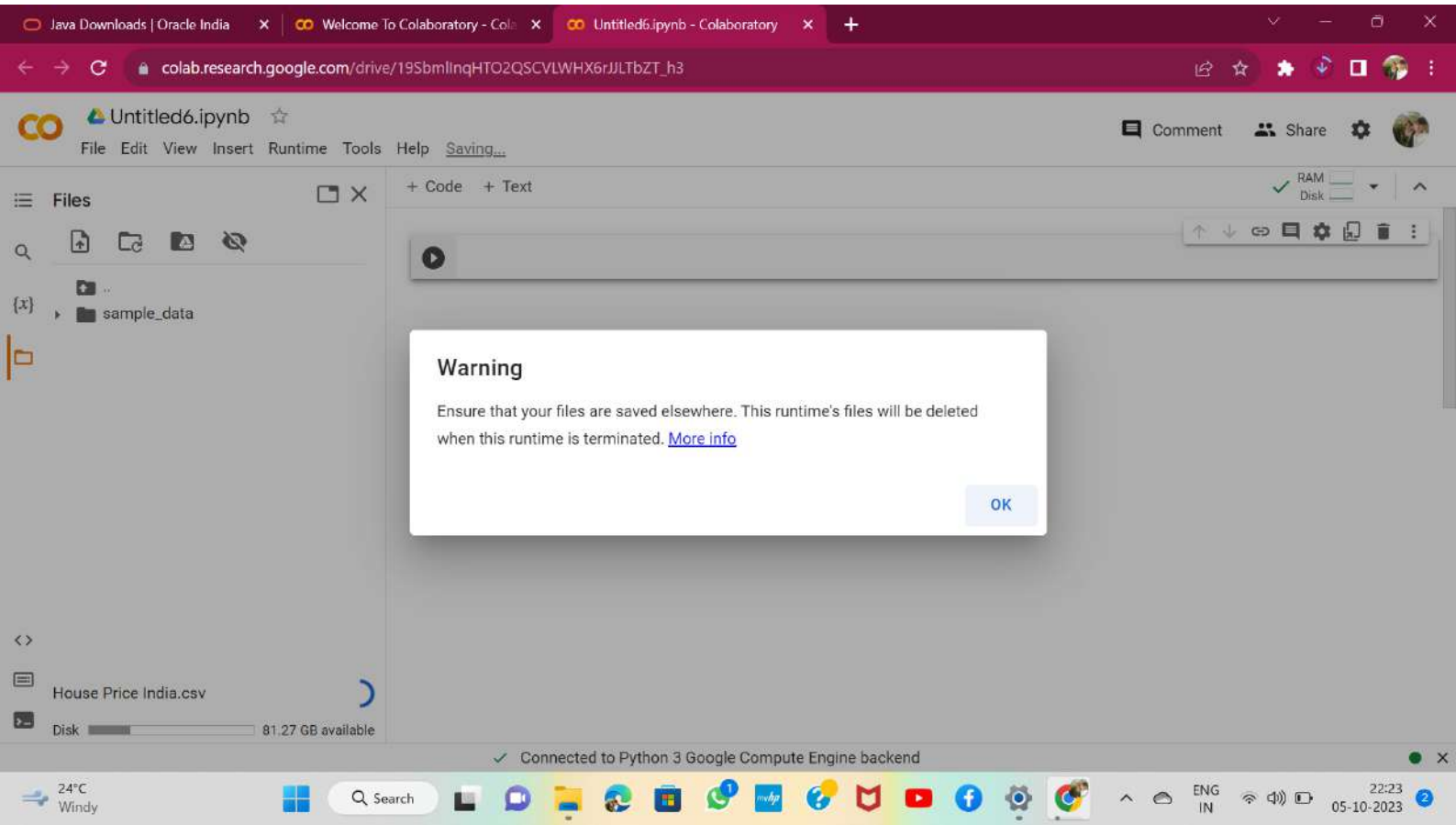
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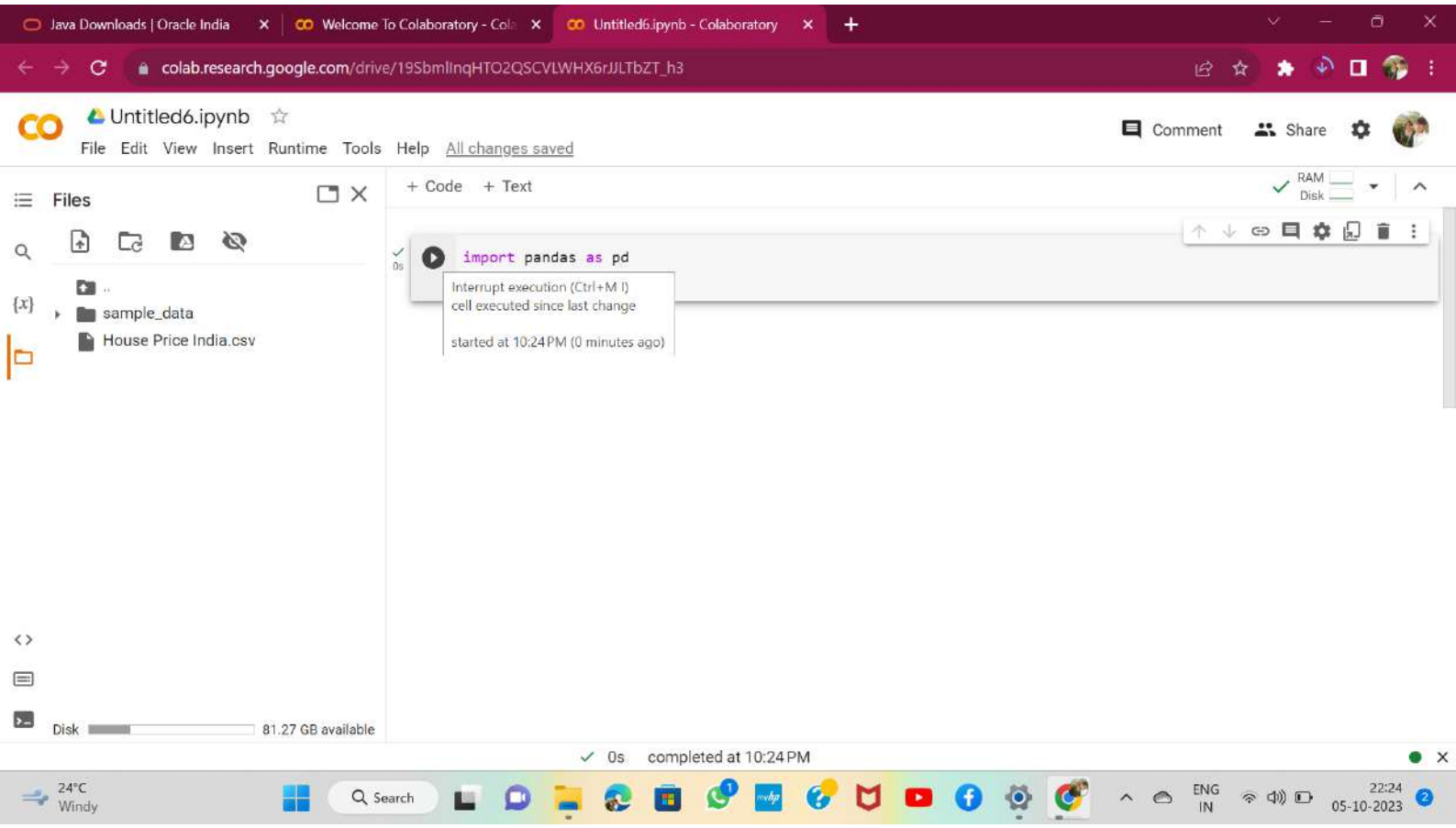
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import pandas as pd
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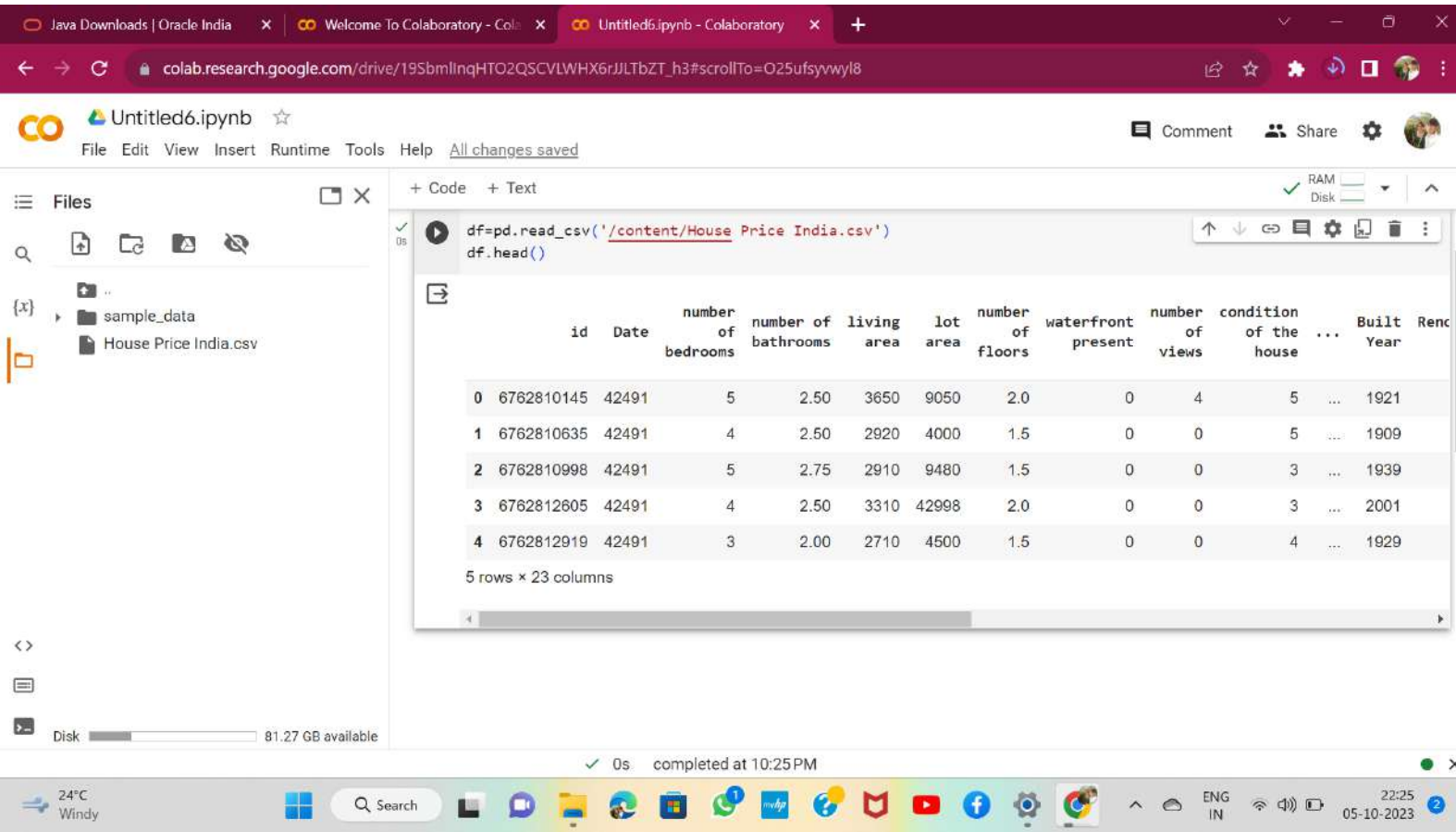
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House Price India.csv
df=pd.read_csv('/content/House Price India.csv')
df.head()
id Date number of bedrooms number of bathrooms living area lot area number of floors waterfront present number of views condition of the house ... Built Year Renc
0 6762810145 42491 5 2.50 3650 9050 2.0 0 4 5 ... 1921
1 6762810635 42491 4 2.50 2920 4000 1.5 0 0 5 ... 1909
2 6762810998 42491 5 2.75 2910 9480 1.5 0 0 3 ... 1939
3 6762812605 42491 4 2.50 3310 42998 2.0 0 0 3 ... 2001
4 6762812919 42491 3 2.00 2710 4500 1.5 0 0 4 ... 1929
5 rows × 23 columns
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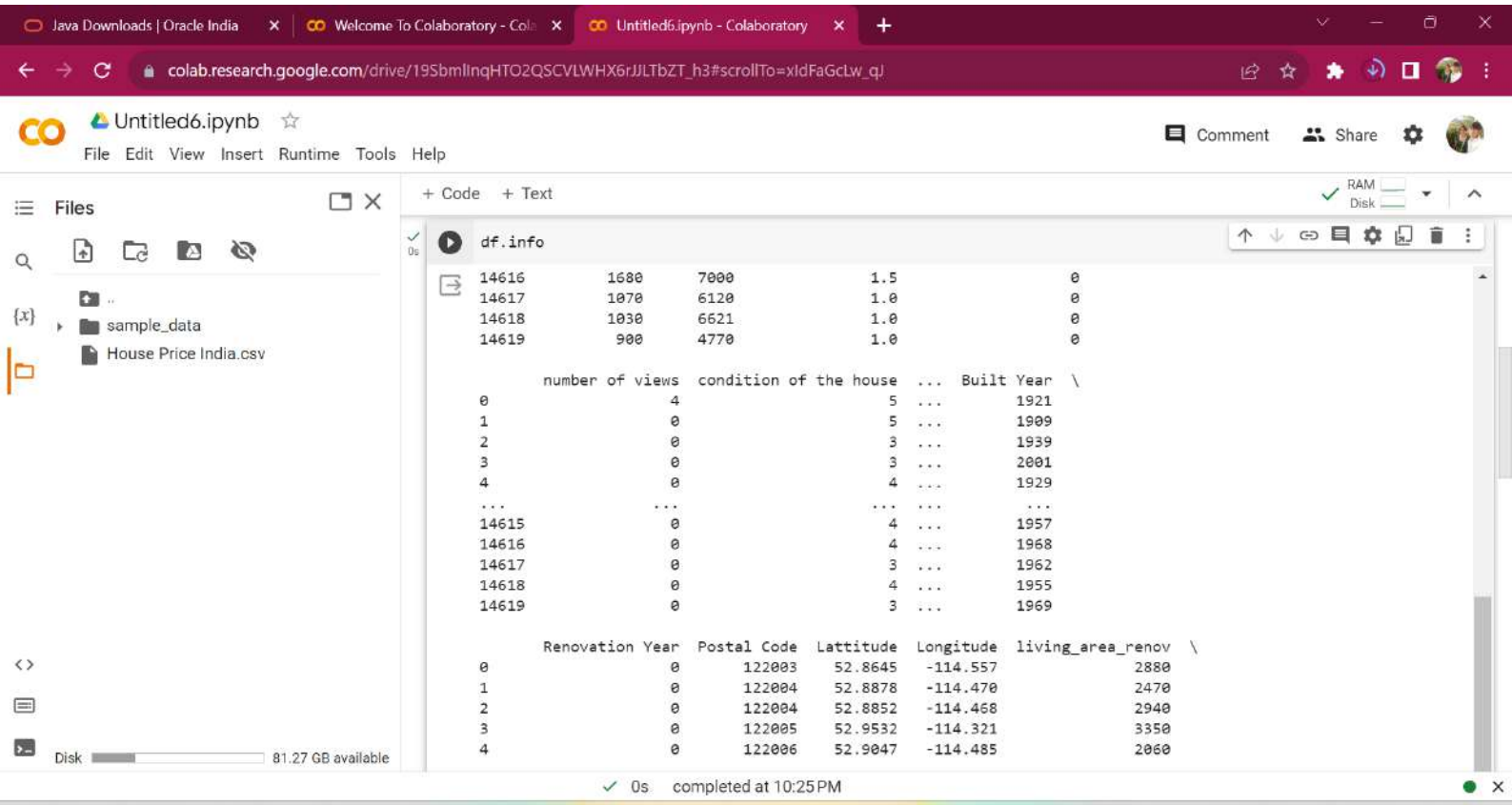
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df.info
14616 1680 7000 1.5 0
14617 1070 6120 1.0 0
14618 1030 6621 1.0 0
14619 900 4770 1.0 0
number of views condition of the house ... Built Year \
0 4 5 ... 1921
1 0 5 ... 1909
2 0 3 ... 1939
3 0 3 ... 2001
4 0 4 ... 1929
... ...
14615 0 4 ... 1957
14616 0 4 ... 1968
14617 0 3 ... 1962
14618 0 4 ... 1955
14619 0 3 ... 1969
Renovation Year Postal Code Lattitude Longitude living_area_renov \
0 0 122003 52.8645 -114.557 2880
1 0 122004 52.8878 -114.470 2470
2 0 122004 52.8852 -114.468 2940
3 0 122005 52.9532 -114.321 3350
4 0 122006 52.9047 -114.485 2060
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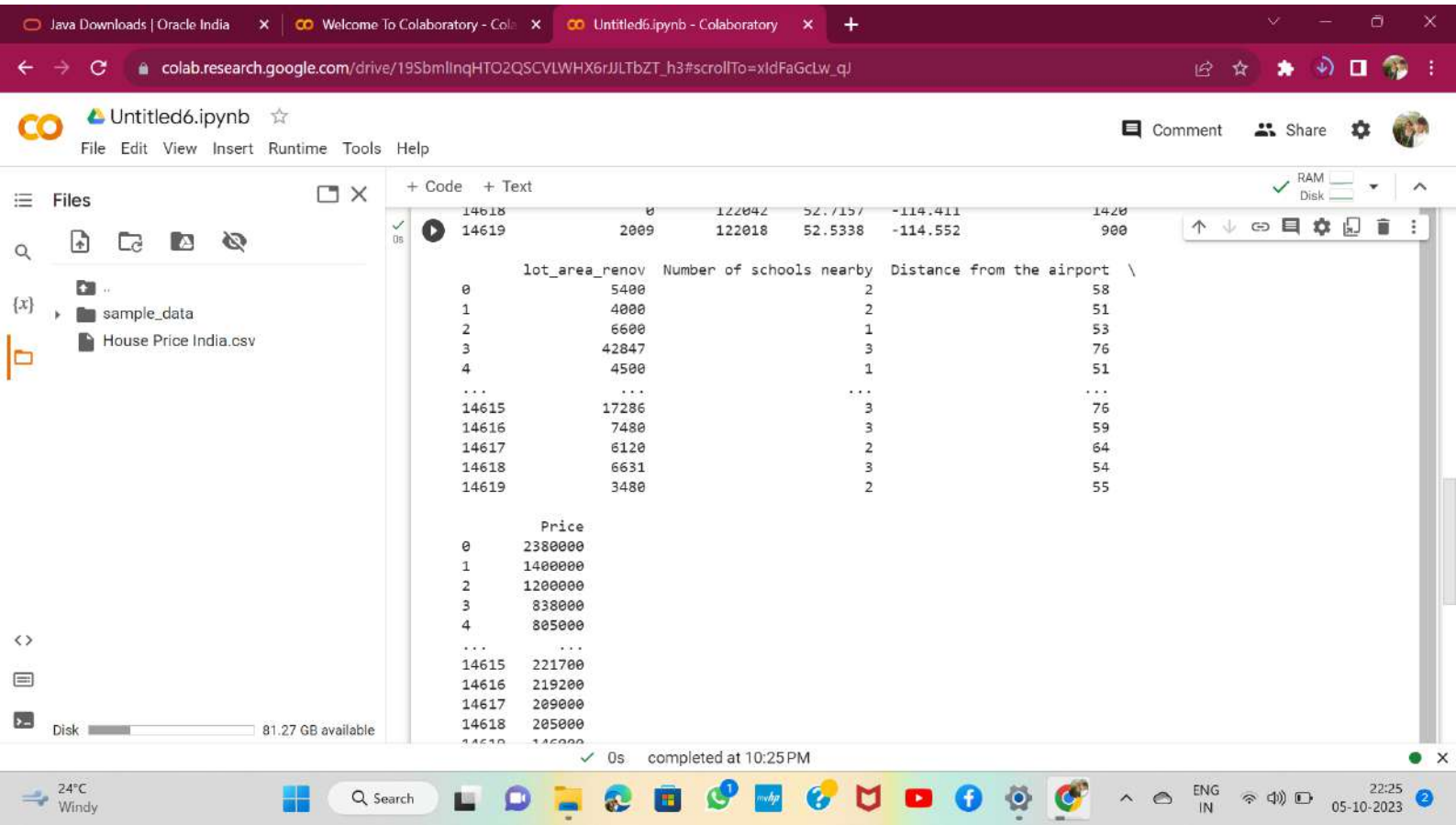
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14618 0 122042 52.7157 -114.411 1420
14619 2009 122018 52.5338 -114.552 900
lot_area_renov Number of schools nearby Distance from the airport \
0 5400 2 58
1 4000 2 51
2 6600 1 53
3 42847 3 76
4 4500 1 51
... ...
14615 17286 3 76
14616 7480 3 59
14617 6120 2 64
14618 6631 3 54
14619 3480 2 55
Price
0 2380000
1 1400000
2 1200000
3 838000
4 805000
... ...
14615 221700
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14617 209000
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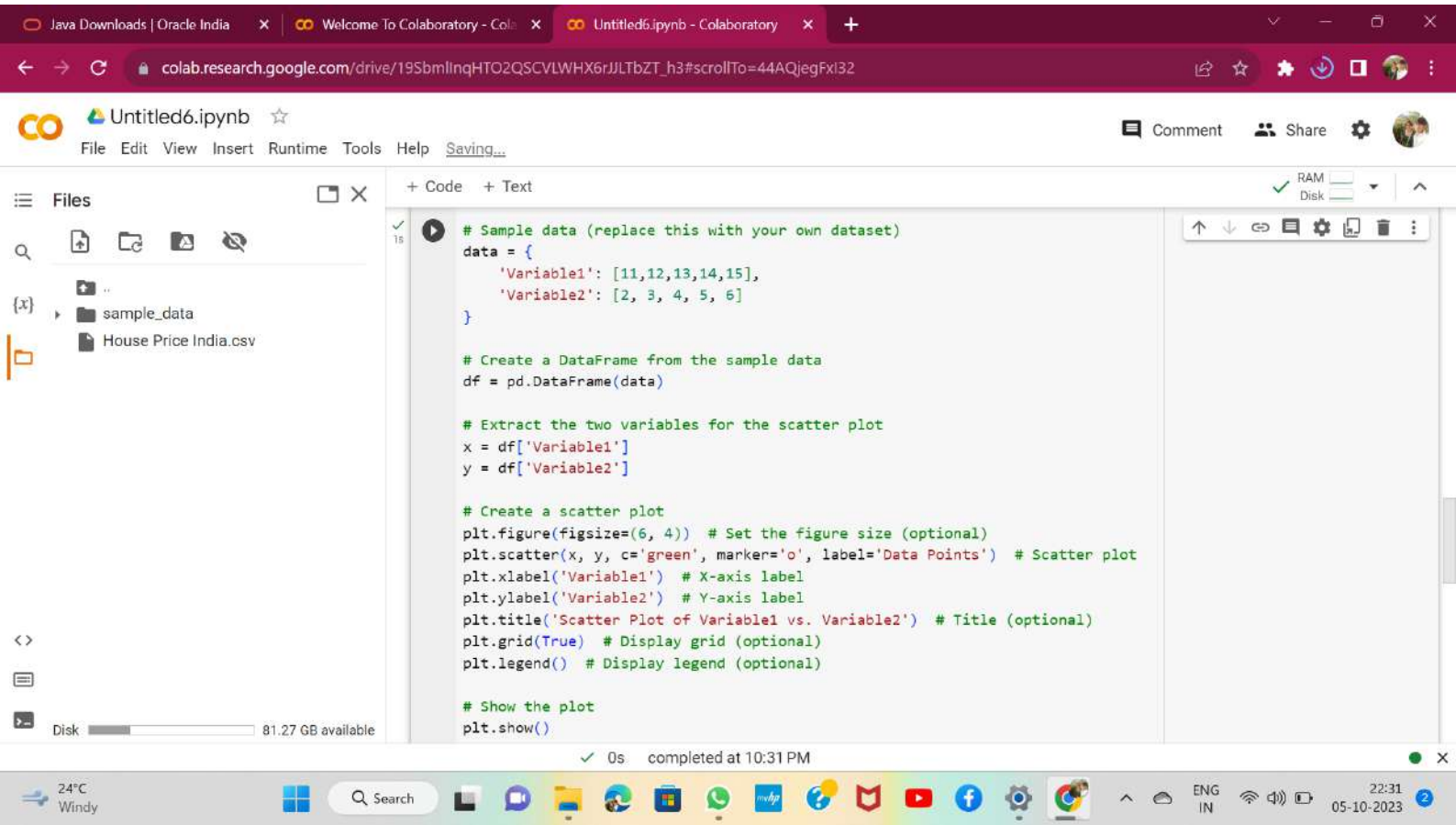
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House Price India.csv
Disk 81.27 GB available
# Sample data (replace this with your own dataset)
data = {
'Variable1': [11,12,13,14,15],
'Variable2': [2, 3, 4, 5, 6]
}
# Create a DataFrame from the sample data
df = pd.DataFrame(data)
# Extract the two variables for the scatter plot
x = df['Variable1']
y = df['Variable2']
# Create a scatter plot
plt.figure(figsize=(6, 4)) # Set the figure size (optional)
plt.scatter(x, y, c='green', marker='o', label='Data Points') # Scatter plot
plt.xlabel('Variable1') # X-axis label
plt.ylabel('Variable2') # Y-axis label
plt.title('Scatter Plot of Variable1 vs. Variable2') # Title (optional)
plt.grid(True) # Display grid (optional)
plt.legend() # Display legend (optional)
# Show the plot
plt.show()
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plt.show()
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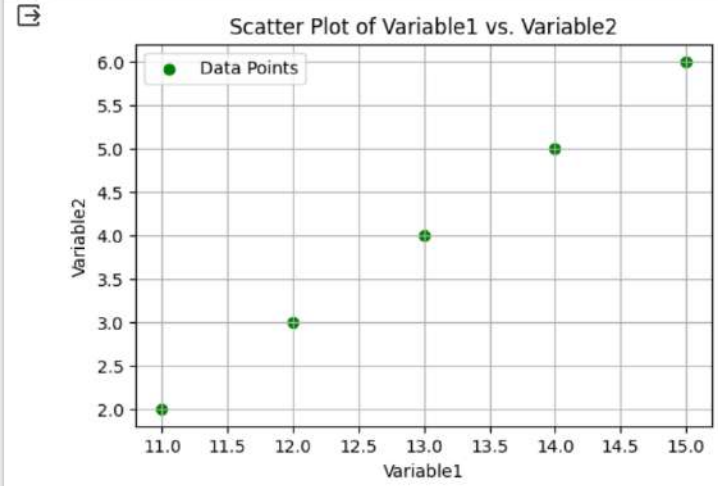

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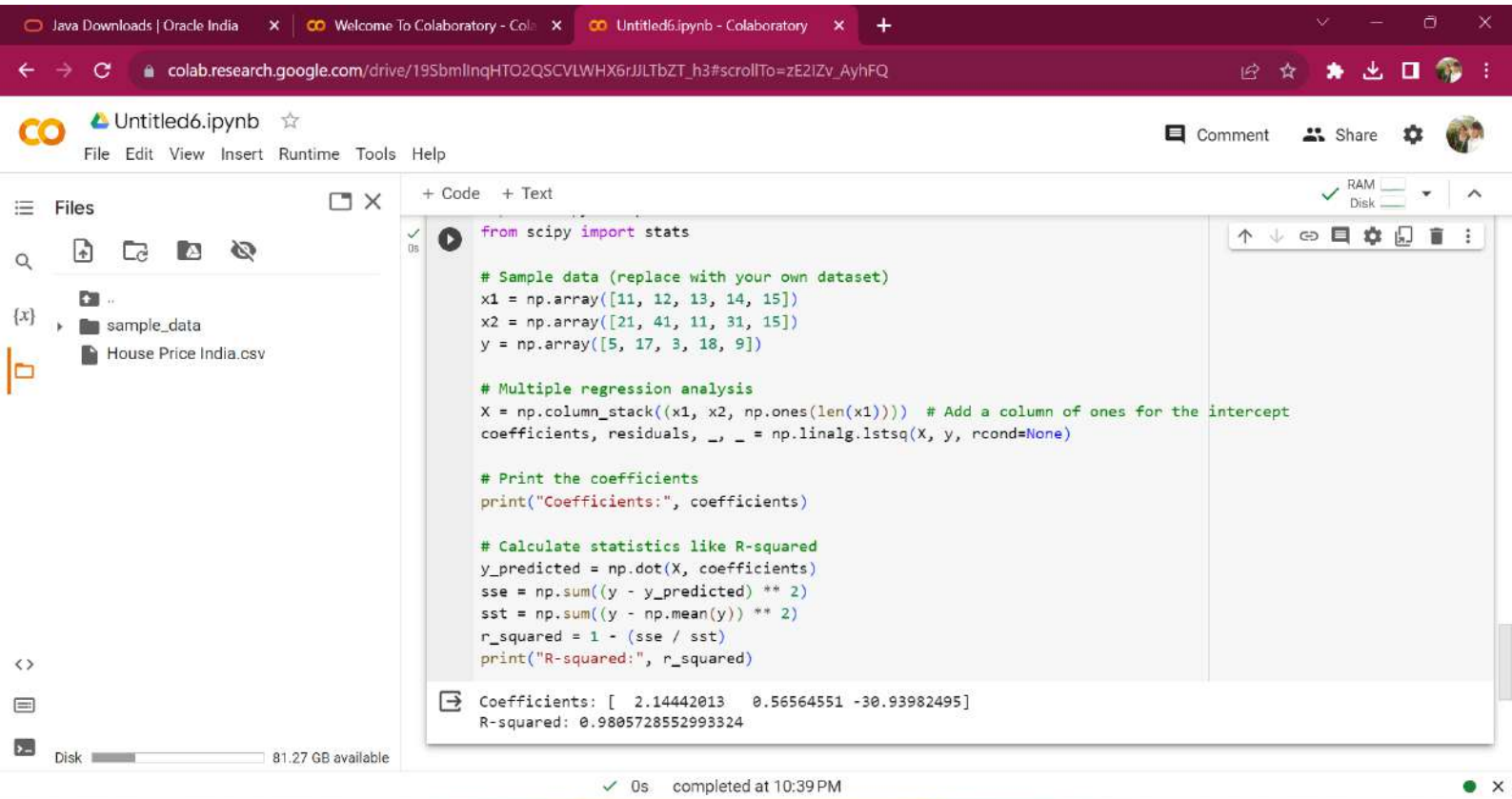
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from scipy import stats
# Sample data (replace with your own dataset)
x1 = np.array([11, 12, 13, 14, 15])
x2 = np.array([21, 41, 11, 31, 15])
y = np.array([5, 17, 3, 18, 9])
# Multiple regression analysis
X = np.column_stack((x1, x2, np.ones(len(x1)))) # Add a column of ones for the intercept
coefficients, residuals, _, _ = np.linalg.lstsq(X, y, rcond=None)
# Print the coefficients
print("Coefficients:", coefficients)
# Calculate statistics like R-squared
y_predicted = np.dot(X, coefficients)
sse = np.sum((y - y_predicted) ** 2)
sst = np.sum((y - np.mean(y)) ** 2)
r_squared = 1 - (sse / sst)
print("R-squared:", r_squared)
Coefficients: [2.14442013 0.56564551 -30.93982495]
R-squared: 0.9805728552993324
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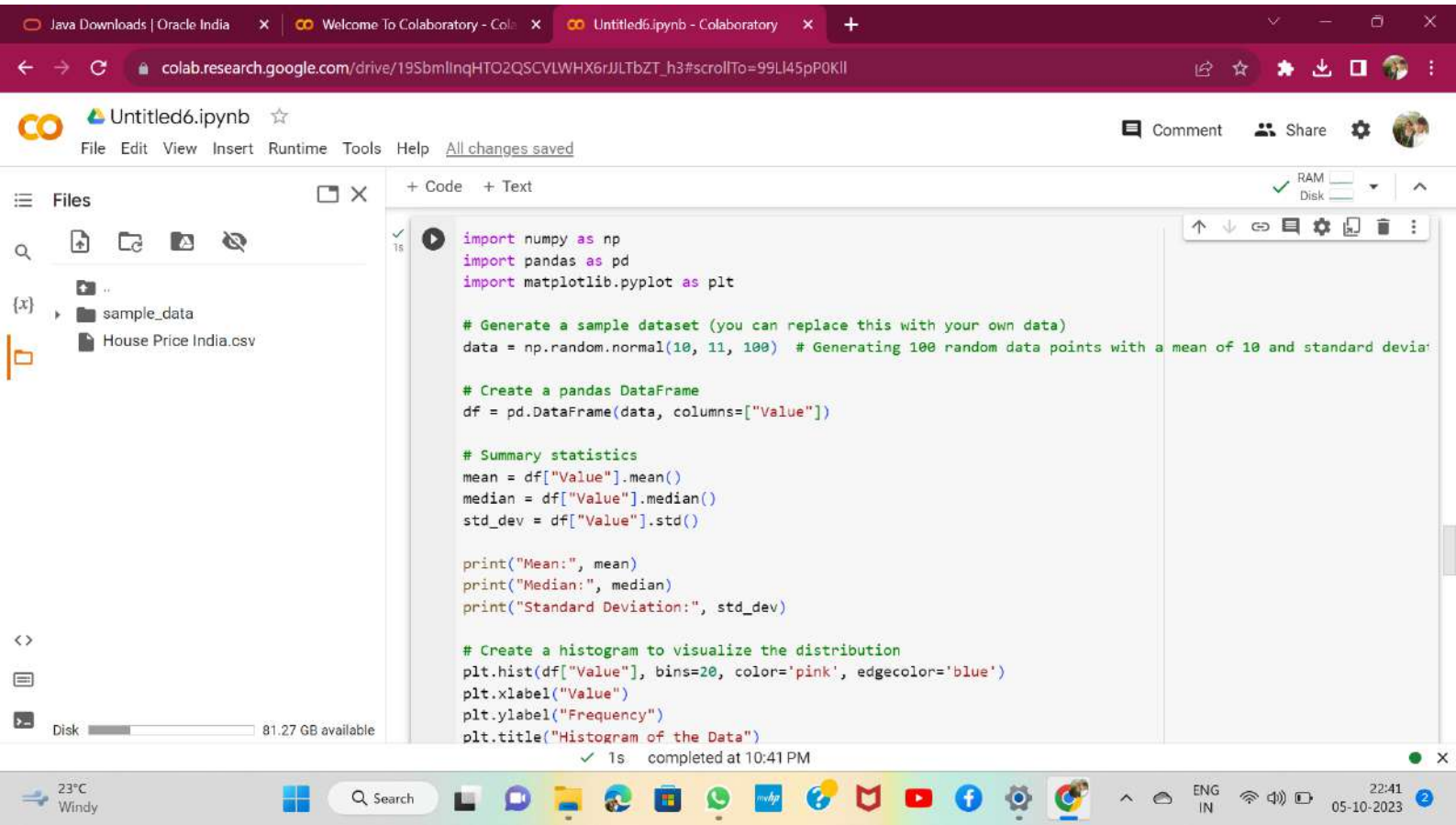
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import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
# Generate a sample dataset (you can replace this with your own data)
data = np.random.normal(10, 11, 100) # Generating 100 random data points with a mean of 10 and standard deviat
# Create a pandas DataFrame
df = pd.DataFrame(data, columns=["Value"])
# Summary statistics
mean = df["Value"].mean()
median = df["Value"].median()
std_dev = df["Value"].std()
print("Mean:", mean)
print("Median:", median)
print("Standard Deviation:", std_dev)
# Create a histogram to visualize the distribution
plt.hist(df["Value"], bins=20, color='pink', edgecolor='blue')
plt.xlabel("Value")
plt.ylabel("Frequency")
plt.title("Histogram of the Data")
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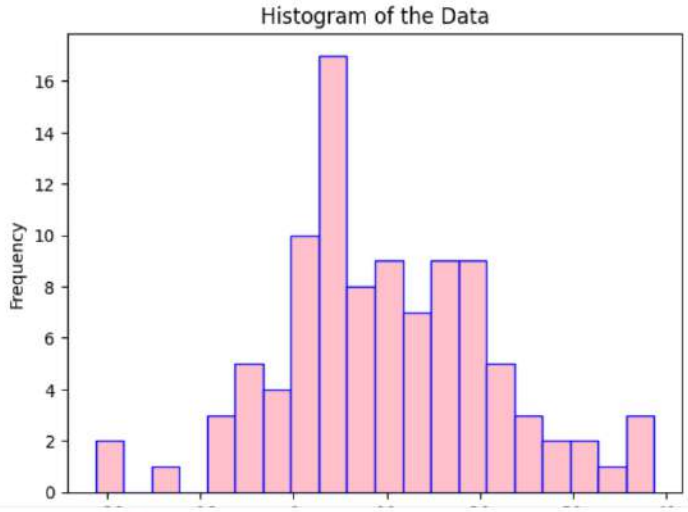
Mean: 9.872109287709252
Median: 8.78134042783185
Standard Deviation: 11.686617263024939
```



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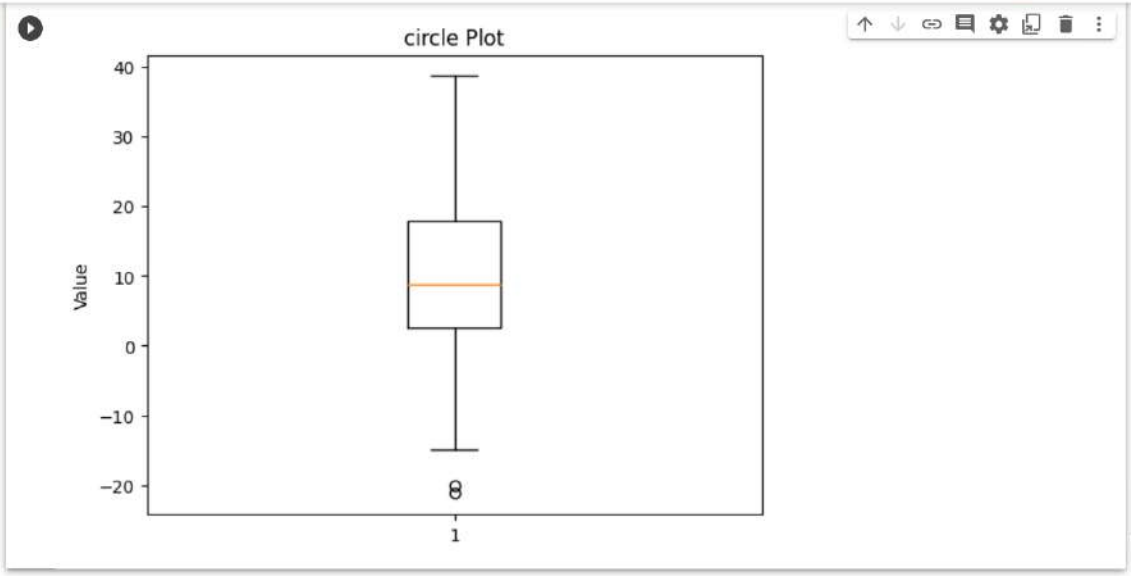

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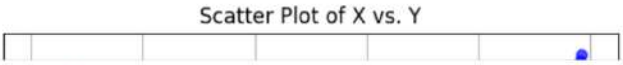
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt

# Generate sample data (you can replace this with your own data)
np.random.seed(0)
x = np.random.rand(1000)  # Numerical variable 2
y = 21 * x + 13 + np.random.randn(1000)  # Numerical variable 2 with a linear relationship to x

# Create a pandas DataFrame
df = pd.DataFrame({'X': x, 'Y': y})

# Scatter plot
plt.scatter(df['X'], df['Y'], color='blue', alpha=0.7)
plt.xlabel('X')
plt.ylabel('Y')
plt.title('Scatter Plot of X vs. Y')
plt.grid(True)
plt.show()
```



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plt.show()
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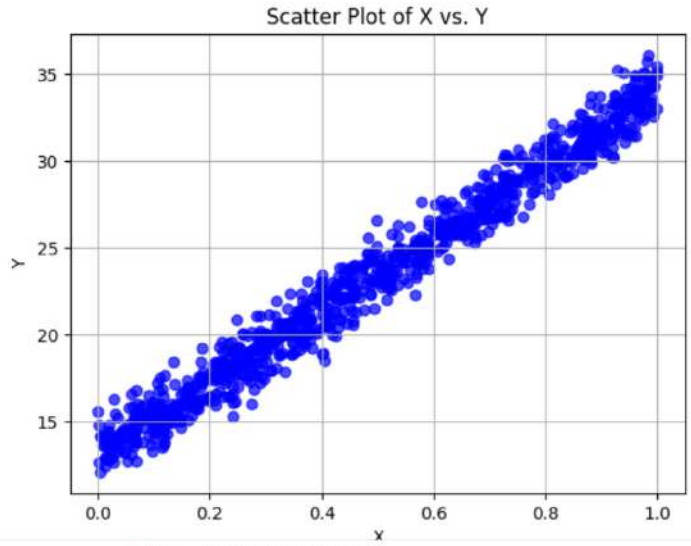

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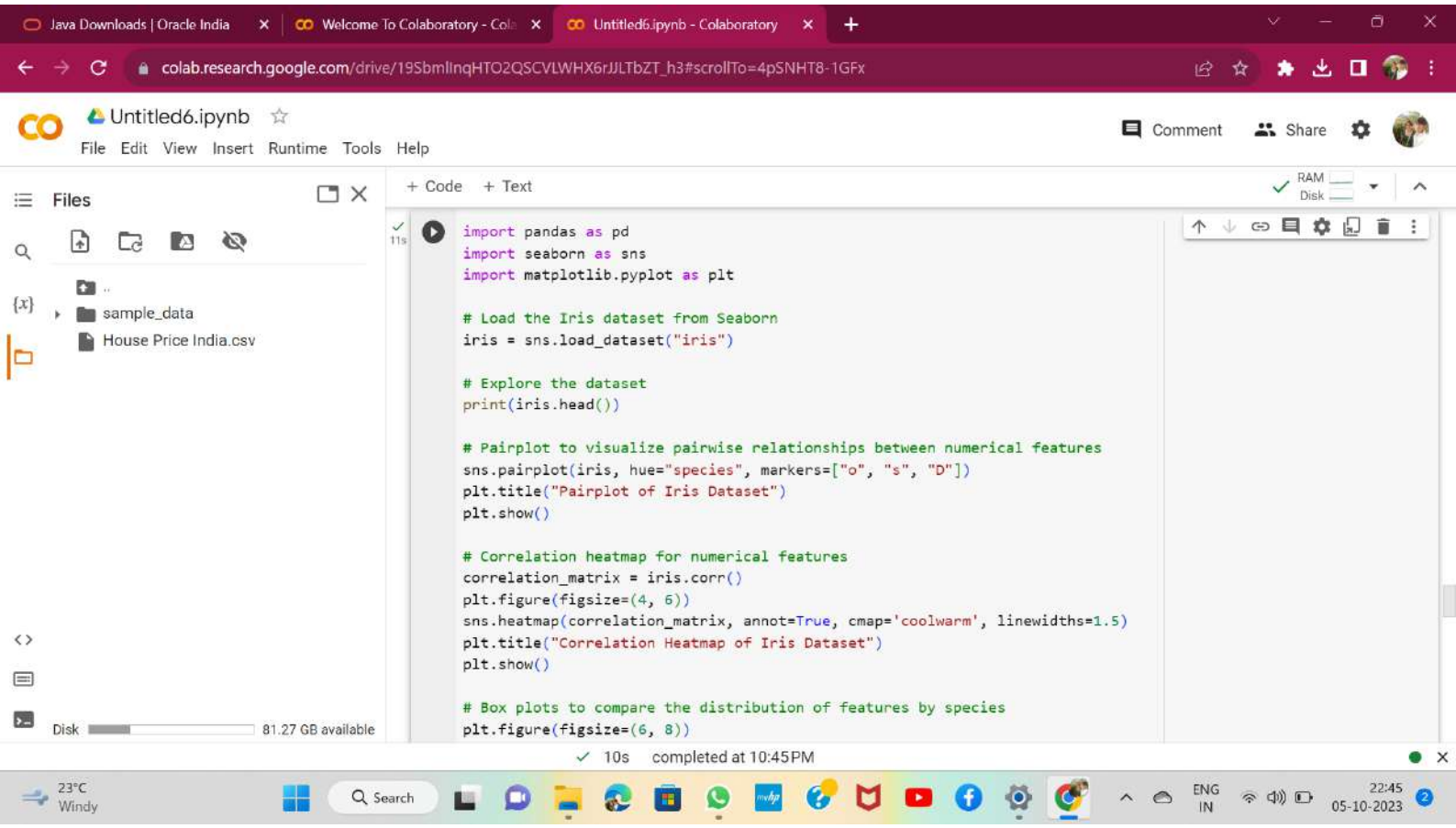
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import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
# Load the Iris dataset from Seaborn
iris = sns.load_dataset("iris")
# Explore the dataset
print(iris.head())
# Pairplot to visualize pairwise relationships between numerical features
sns.pairplot(iris, hue="species", markers=["o", "s", "D"])
plt.title("Pairplot of Iris Dataset")
plt.show()
# Correlation heatmap for numerical features
correlation_matrix = iris.corr()
plt.figure(figsize=(4, 6))
sns.heatmap(correlation_matrix, annot=True, cmap='coolwarm', linewidths=1.5)
plt.title("Correlation Heatmap of Iris Dataset")
plt.show()
# Box plots to compare the distribution of features by species
plt.figure(figsize=(6, 8))
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   sepal_length  sepal_width  petal_length  petal_width species
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1           4.9          3.0           1.4          0.2  setosa
2           4.7          3.2           1.3          0.2  setosa
3           4.6          3.1           1.5          0.2  setosa
4           5.0          3.6           1.4          0.2  setosa
```

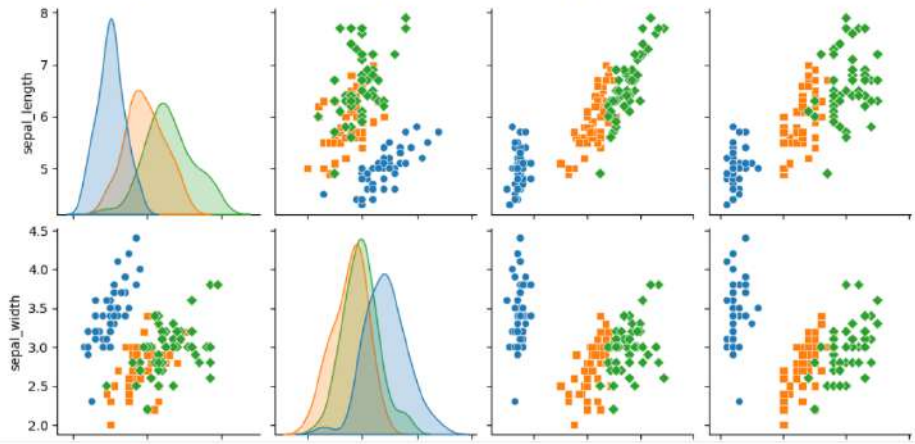

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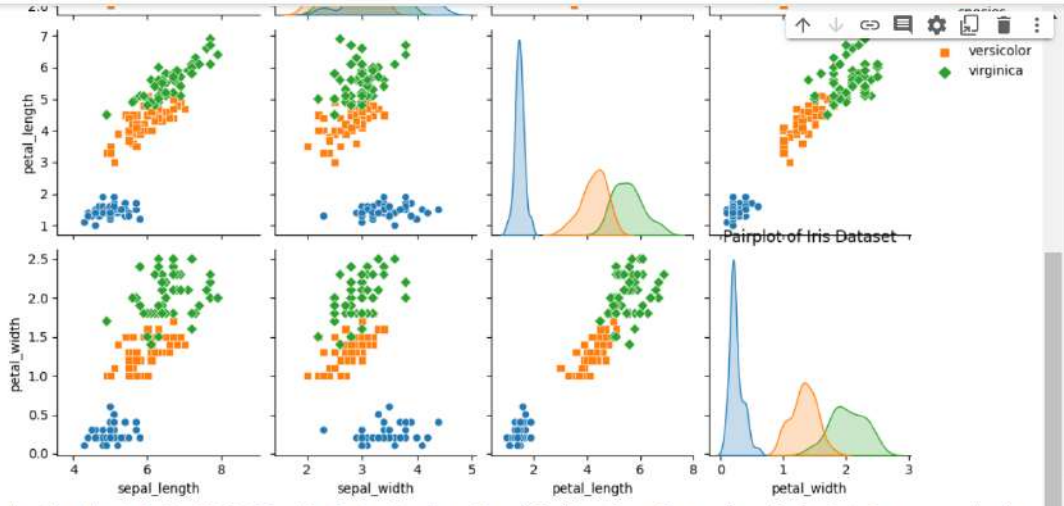


```
<ipython-input-9-01a352f0a835>:17: FutureWarning: The default value of numeric_only in DataFrame.corr is depr
  correlation_matrix = iris.corr()
```

Correlation Heatmap of Iris Dataset

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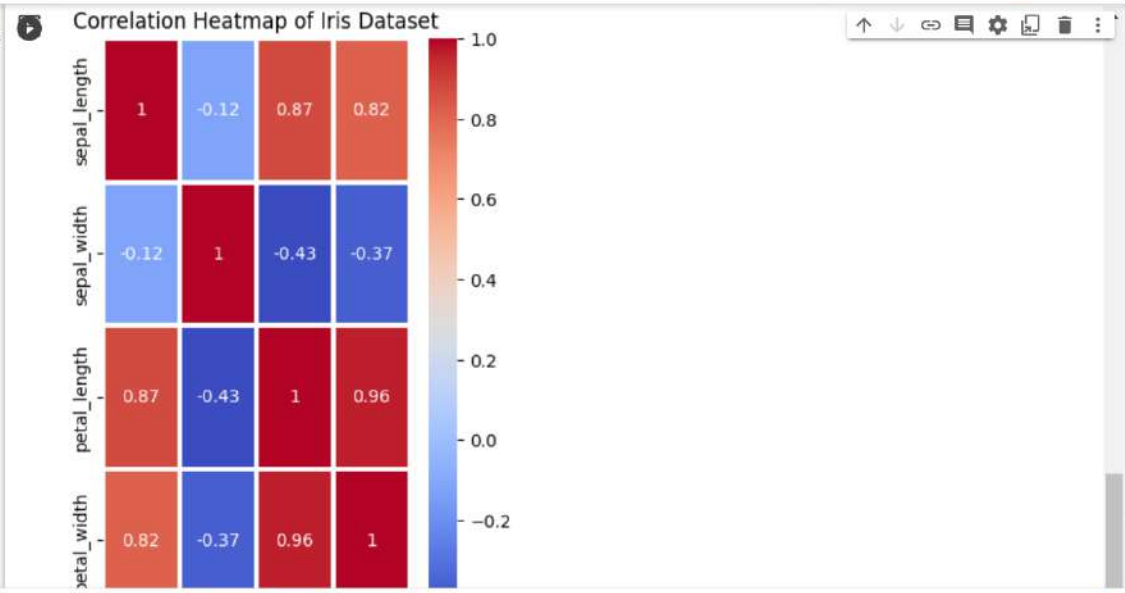

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sepal_length sepal_width petal_length petal_width

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  plt.subplot(2, 3, 4)
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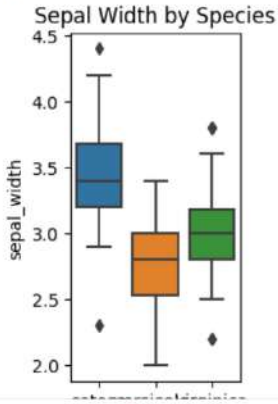

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Files

..
sample_data
House Price India.csv

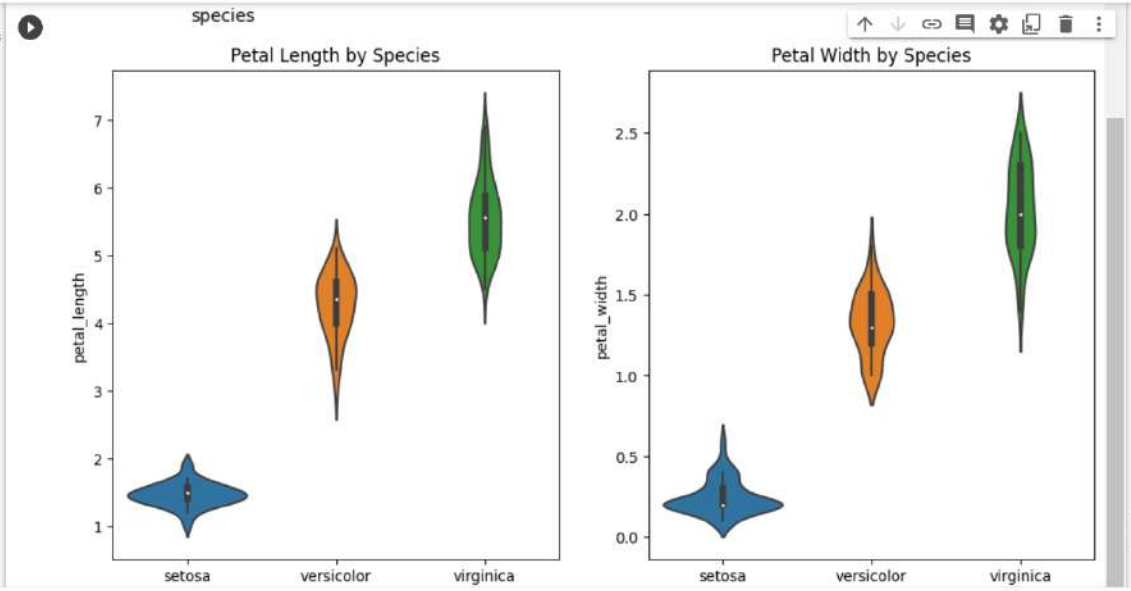
Disk 81.27 GB available

+ Code + Text

RAM Disk

11s

species



10s completed at 10:45PM

23°C Windy

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22:46 05-10-2023