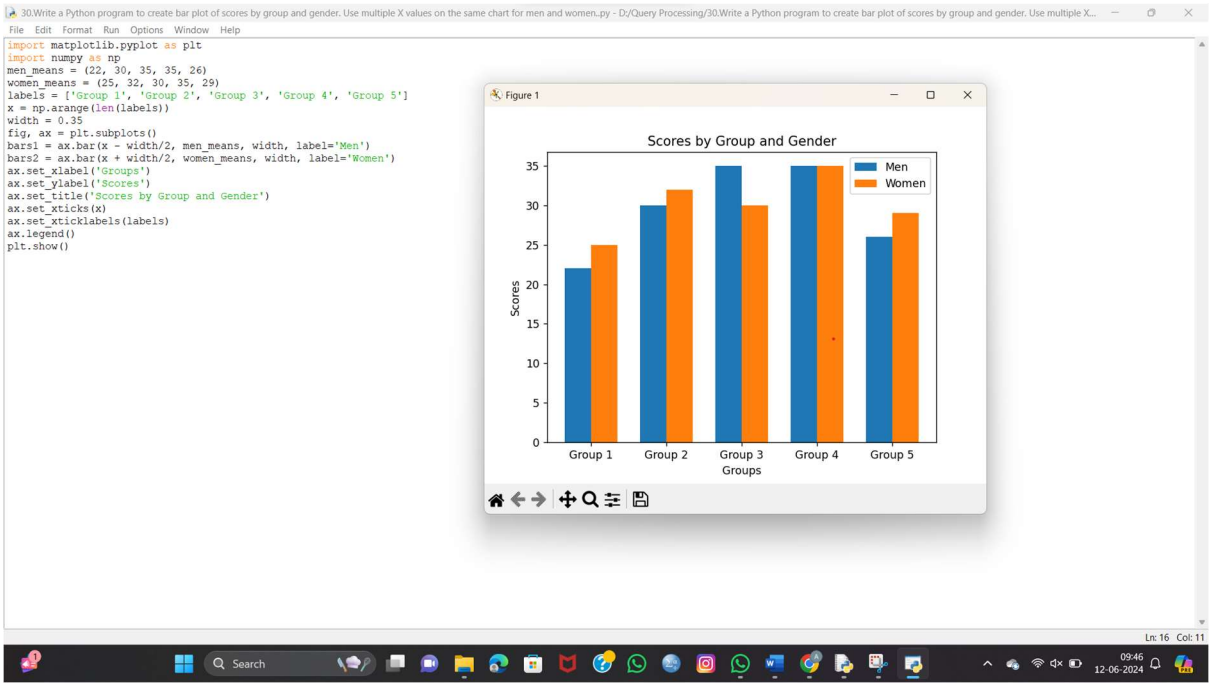
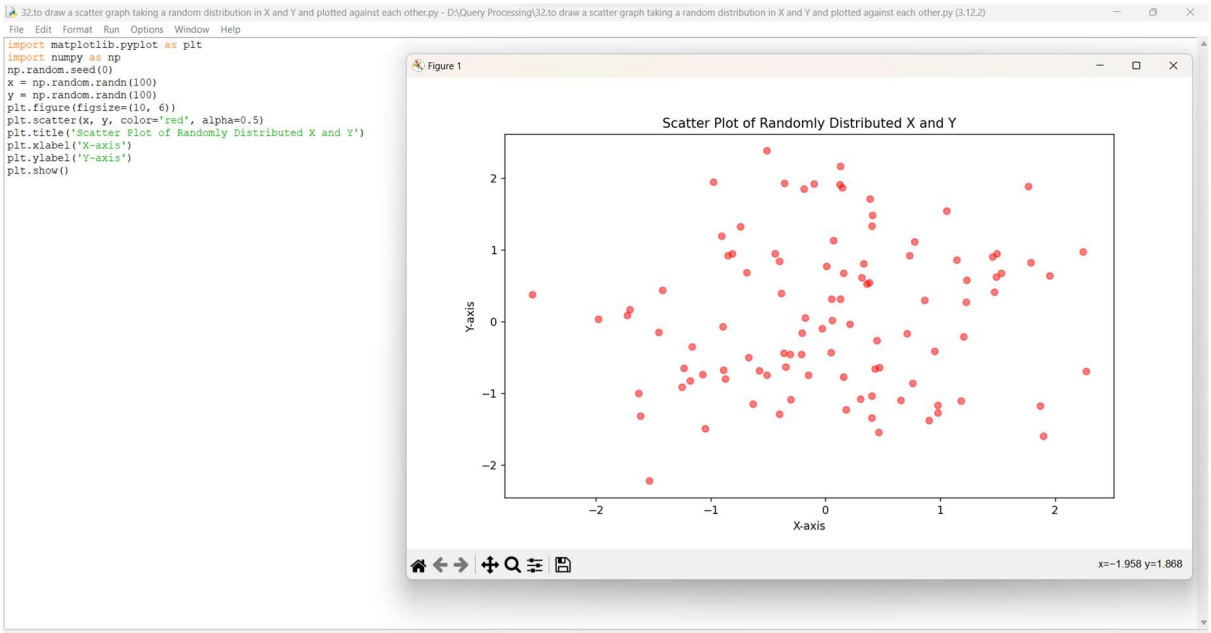
31.Write a Python program to create a stacked bar plot with error bars.
Note: Use bottom to stack the women?s bars on top of the men?s bars.

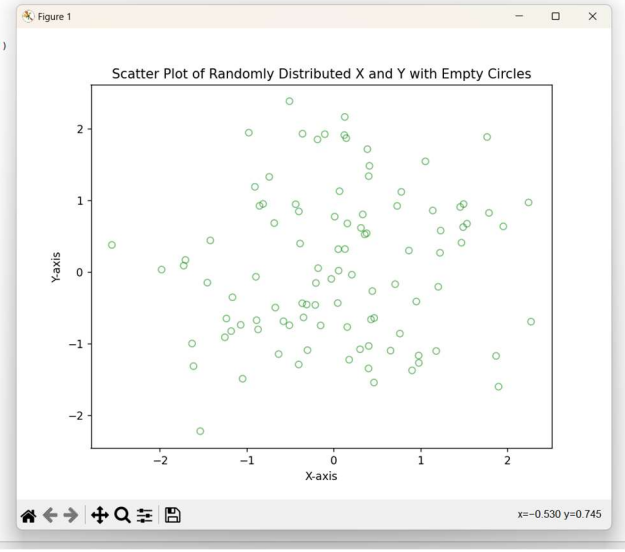


32.Write a Python program to draw a scatter graph taking a random distribution in X and Y and plotted against each other.



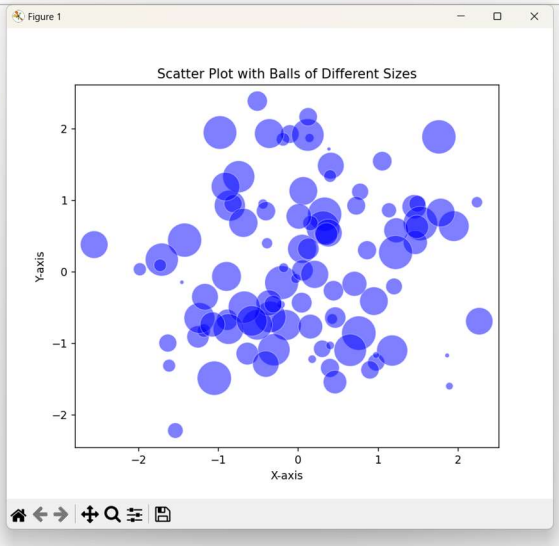
33.Write a Python program to draw a scatter plot with empty circles taking a random distribution in X and Y and plotted against each other.

```
import matplotlib.pyplot as plt
import numpy as np
np.random.seed(0)
x = np.random.randn(100)
y = np.random.randn(100)
plt.figure(figsize=(10, 6))
plt.scatter(x, y, edgecolors='green', facecolors='none', alpha=0.5)
plt.title('Scatter Plot of Randomly Distributed X and Y with Empty Circles')
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.show()
```



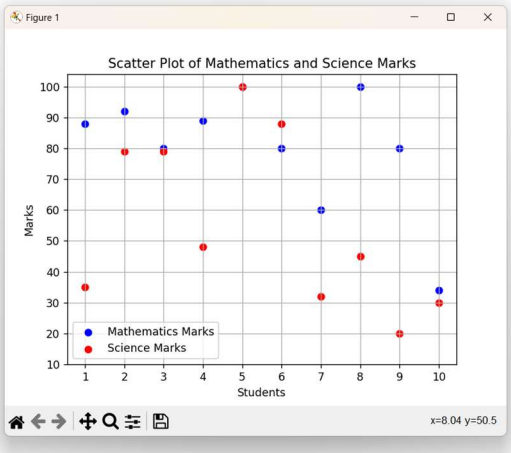
34.Write a Python program to draw a scatter plot using random distributions to generate balls of different sizes.

```
import matplotlib.pyplot as plt
import numpy as np
np.random.seed(0)
x = np.random.randn(100)
y = np.random.randn(100)
sizes = np.random.rand(100) * 1000
plt.figure(figsize=(10, 6))
plt.scatter(x, y, s=sizes, color='blue', alpha=0.5, edgecolors='w', linewidth=0.5)
plt.title('Scatter Plot with Balls of Different Sizes')
plt.xlabel('X-axis')
plt.ylabel('Y-axis')
plt.show()
```



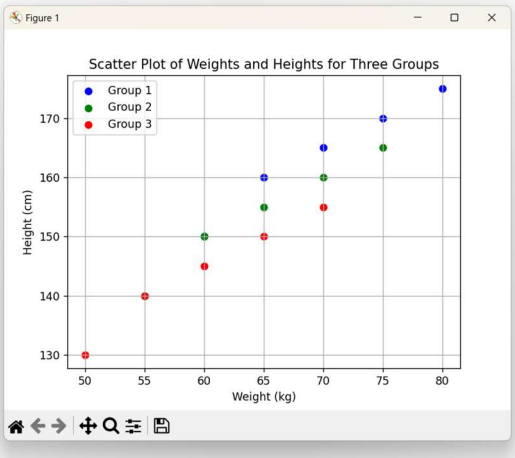
35.Write a Python program to draw a scatter plot comparing two subject marks of Mathematics and Science. Use marks of 10 students.

```
import matplotlib.pyplot as plt
math_marks = [88, 92, 80, 89, 100, 80, 60, 100, 80, 34]
science_marks = [35, 79, 79, 48, 100, 88, 32, 45, 20, 30]
marks_range = [10, 20, 30, 40, 50, 60, 70, 80, 90, 100]
plt.scatter(range(1, len(math_marks) + 1), math_marks, color='blue', label='Mathematics Marks')
plt.scatter(range(1, len(science_marks) + 1), science_marks, color='red', label='Science Marks')
plt.title('Scatter Plot of Mathematics and Science Marks')
plt.xlabel('Students')
plt.ylabel('Marks')
plt.xticks(range(1, 11))
plt.yticks(marks_range)
plt.grid(True)
plt.legend()
plt.show()
```

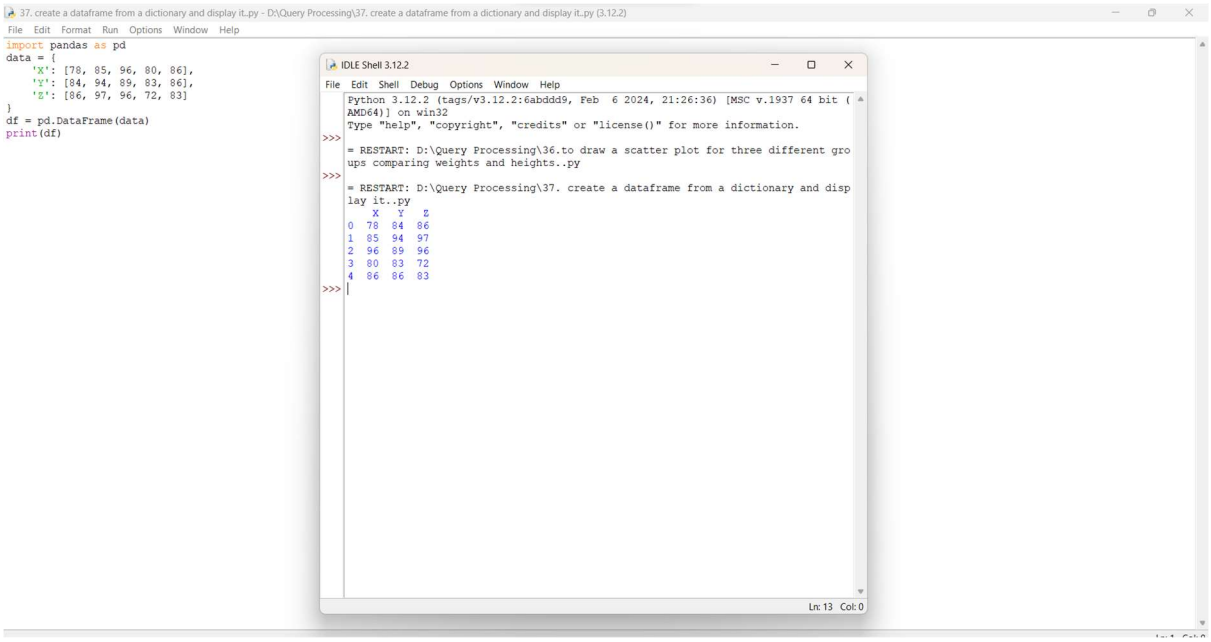


36.Write a Python program to draw a scatter plot for three different groups comparing weights and heights.

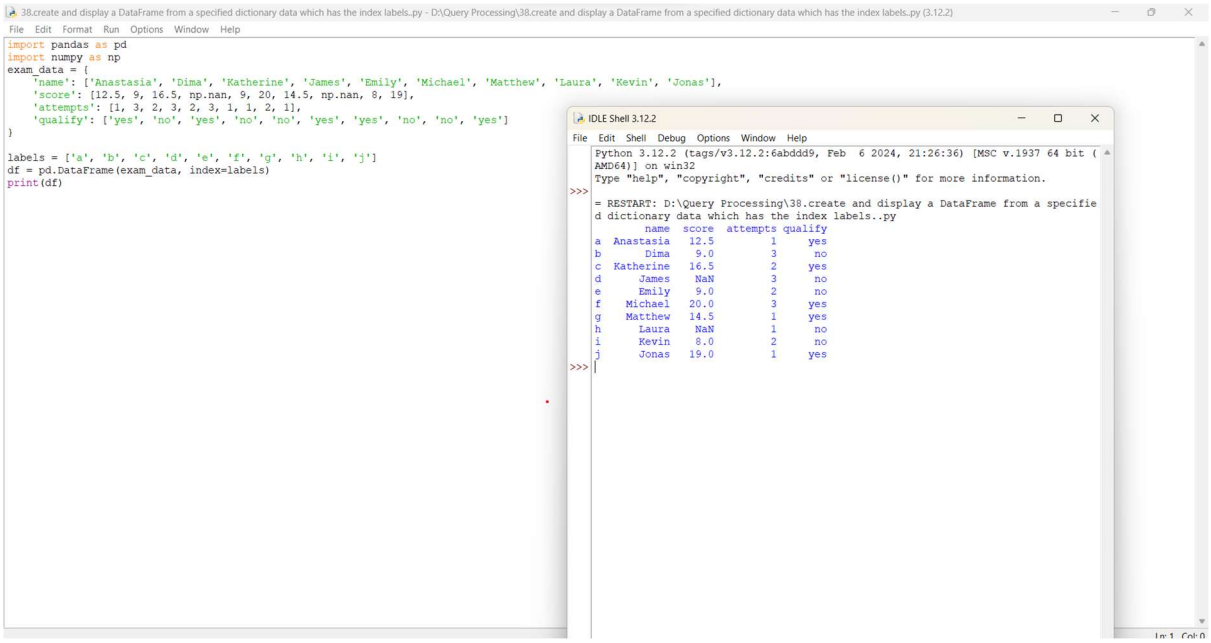
```
import matplotlib.pyplot as plt
group1_weights = [60, 65, 70, 75, 80]
group1_heights = [150, 160, 165, 170, 175]

group2_weights = [55, 60, 65, 70, 75]
group2_heights = [140, 150, 155, 160, 165]

group3_weights = [50, 55, 60, 65, 70]
group3_heights = [130, 140, 145, 150, 155]
plt.scatter(group1_weights, group1_heights, color='blue', label='Group 1')
plt.scatter(group2_weights, group2_heights, color='green', label='Group 2')
plt.scatter(group3_weights, group3_heights, color='red', label='Group 3')
plt.title('Scatter Plot of Weights and Heights for Three Groups')
plt.xlabel('Weight (kg)')
plt.ylabel('Height (cm)')
plt.grid(True)
plt.legend()
plt.show()
```



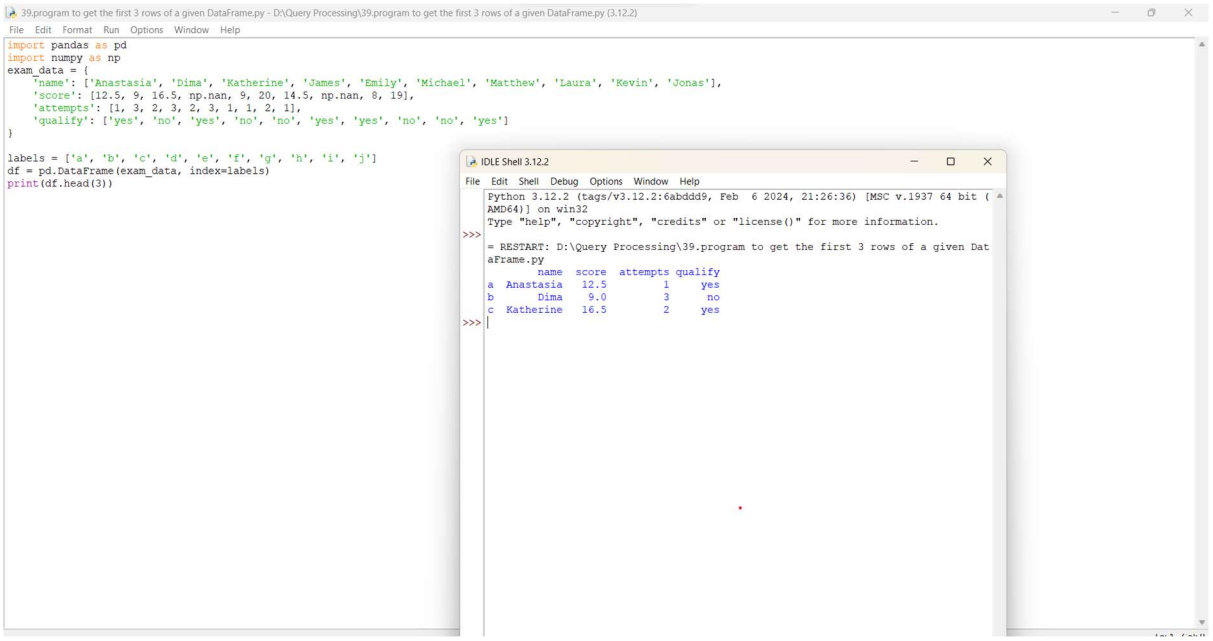
37.Write a Pandas program to create a dataframe from a dictionary and display it.



38.Write a Pandas program to create and display a DataFrame from a specified dictionary data which has the index labels.



39.Write a Pandas program to get the first 3 rows of a given DataFrame.
Sample Python dictionary data and list labels:



40. Write a Pandas program to select the 'name' and 'score' columns from the following DataFrame.