EXPERIMENT :27

AIM:-

Python programming to display a bar chart of the popularity of programming Languages.

CODE:-

27.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/27.py (3.11.0)

File Edit Format Run Options Window Help

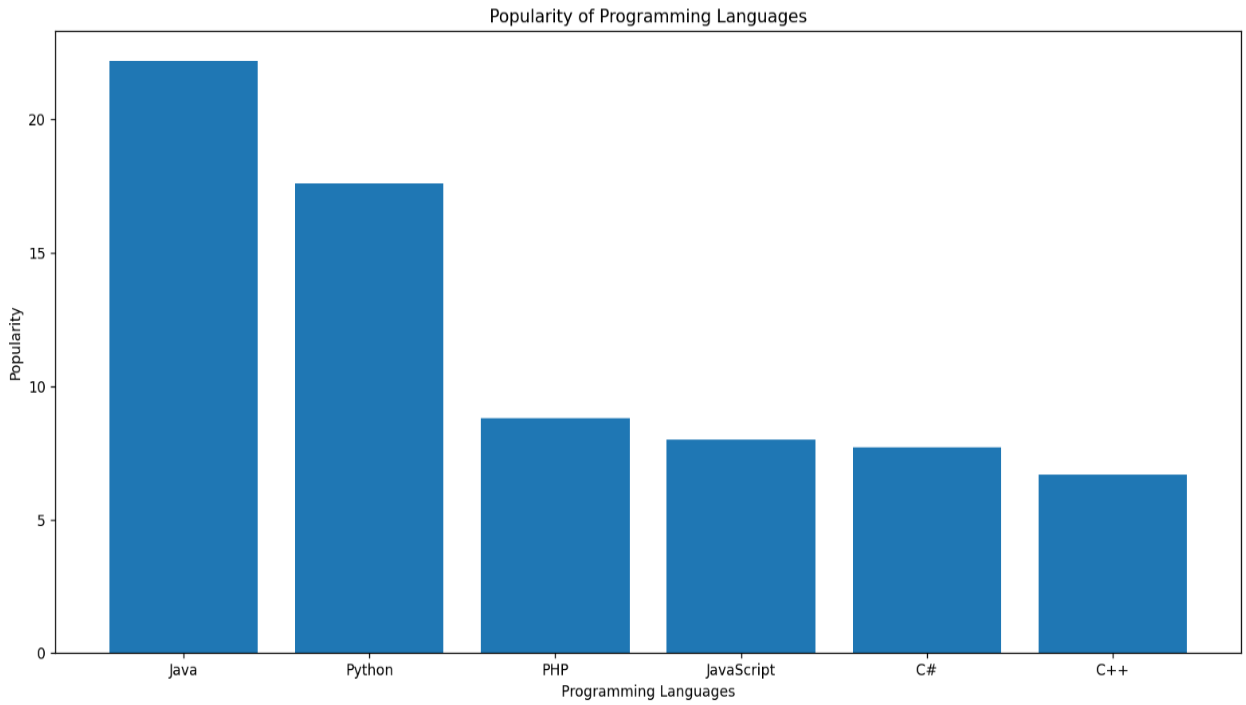
```
import matplotlib.pyplot as plt

languages = ['Java', 'Python', 'PHP', 'JavaScript', 'C#', 'C++']
popularity = [22.2, 17.6, 8.8, 8, 7.7, 6.7]

plt.bar(languages, popularity)
plt.xlabel('Programming Languages')
plt.ylabel('Popularity')
plt.title('Popularity of Programming Languages')
plt.show()
```

INPUT:-

Programming languages: Java, Python, PHP, JavaScript, C#, C++

Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

OUTPUT:-



EXPERIMENT :28

AIM:-

Python programming to display a horizontal bar chart of the popularity of programming Languages

CODE:-

28.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/28.py (3.11.0)

File Edit Format Run Options Window Help

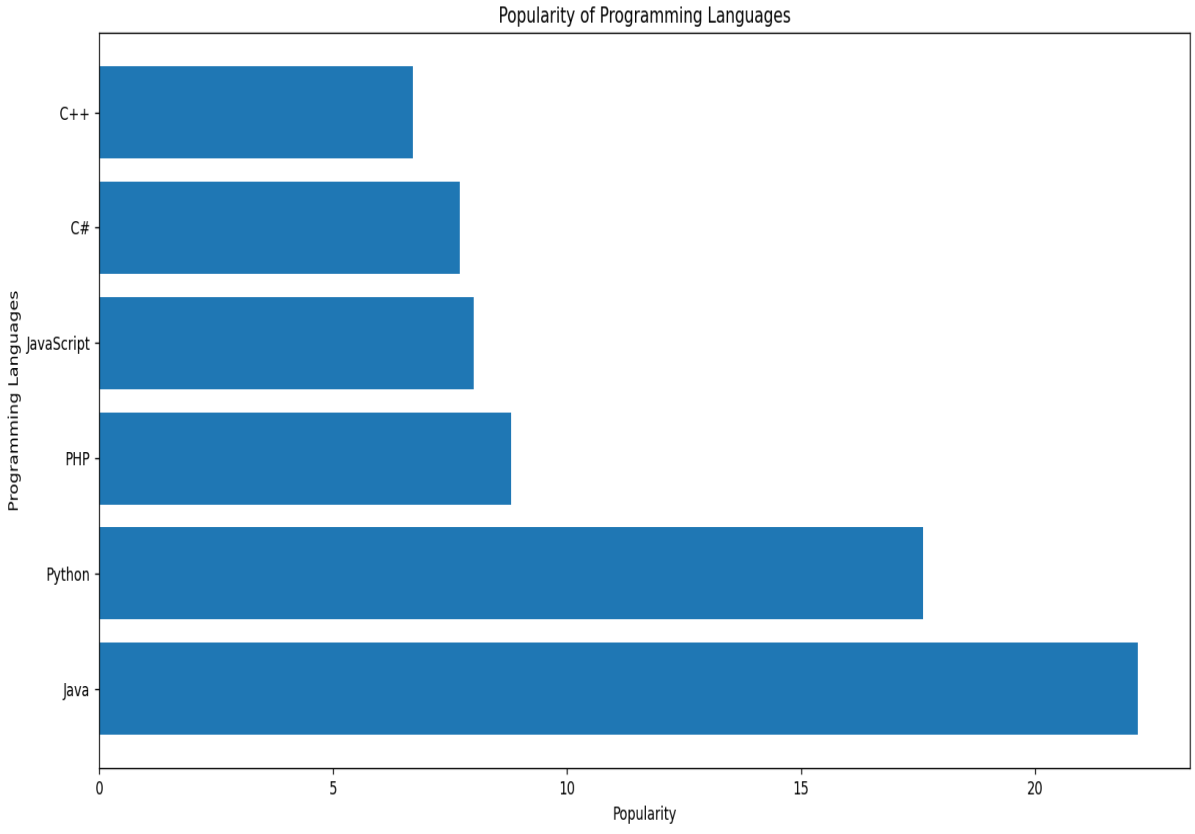
```
import matplotlib.pyplot as plt

languages = ['Java', 'Python', 'PHP', 'JavaScript', 'C#', 'C++']
popularity = [22.2, 17.6, 8.8, 8, 7.7, 6.7]

plt.barh(languages, popularity)
plt.xlabel('Popularity')
plt.ylabel('Programming Languages')
plt.title('Popularity of Programming Languages')
plt.show()
```

INPUT:-

Programming languages: Java, Python, PHP, JavaScript, C#, C++

Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

OUTPUT:-



EXPERIMENT :29

AIM:-

Python programming to display a bar chart of the popularity of programming Languages. Use different color for each bar

CODE:-

29.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/29.py (3.11.0)

File Edit Format Run Options Window Help

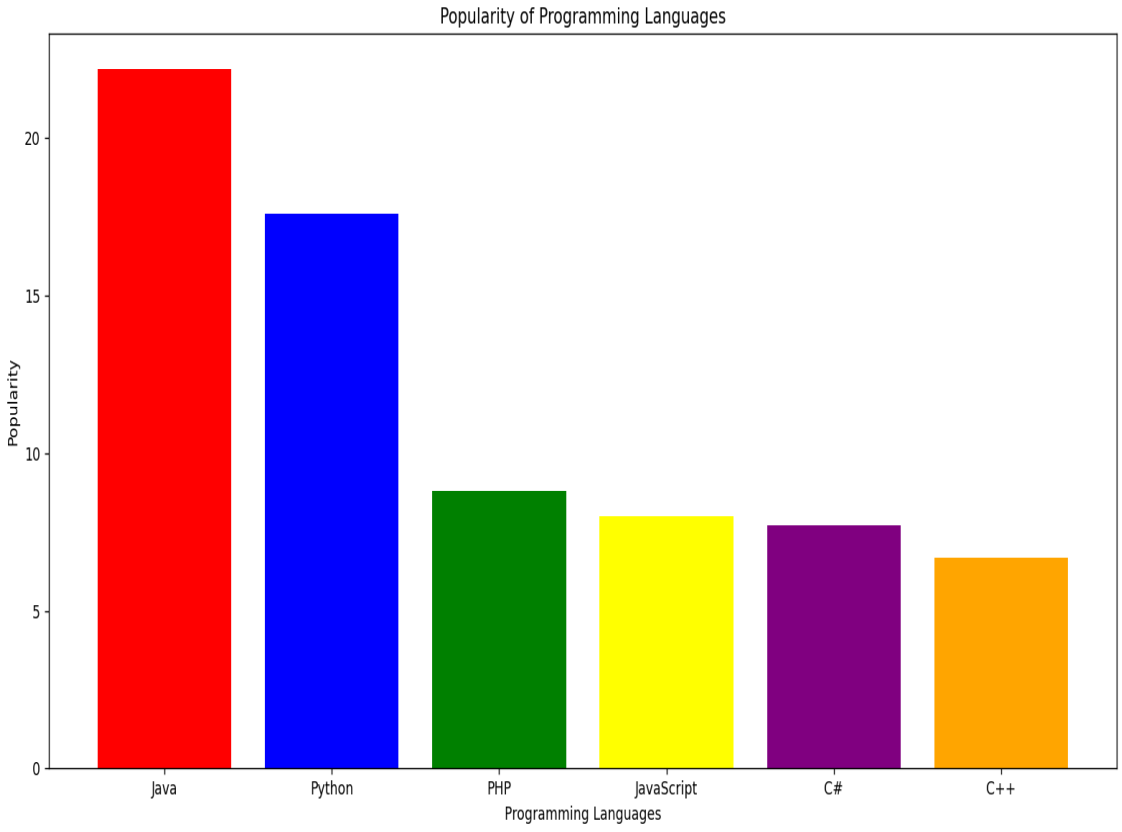
```
import matplotlib.pyplot as plt

languages = ['Java', 'Python', 'PHP', 'JavaScript', 'C#', 'C++']
popularity = [22.2, 17.6, 8.8, 8, 7.7, 6.7]

colors = ['red', 'blue', 'green', 'yellow', 'purple', 'orange']

plt.bar(languages, popularity, color=colors)
plt.xlabel('Programming Languages')
plt.ylabel('Popularity')
plt.title('Popularity of Programming Languages')
plt.show()
```

INPUT

Programming languages: Java, Python, PHP, JavaScript, C#, C++

Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

OUTPUT



EXPERIMENT :30

AIM

Python program to create bar plot of scores by group and gender. Use multiple X values on the same chart for men and women.

CODE

30.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/30.py (3.11.0)

File Edit Format Run Options Window Help

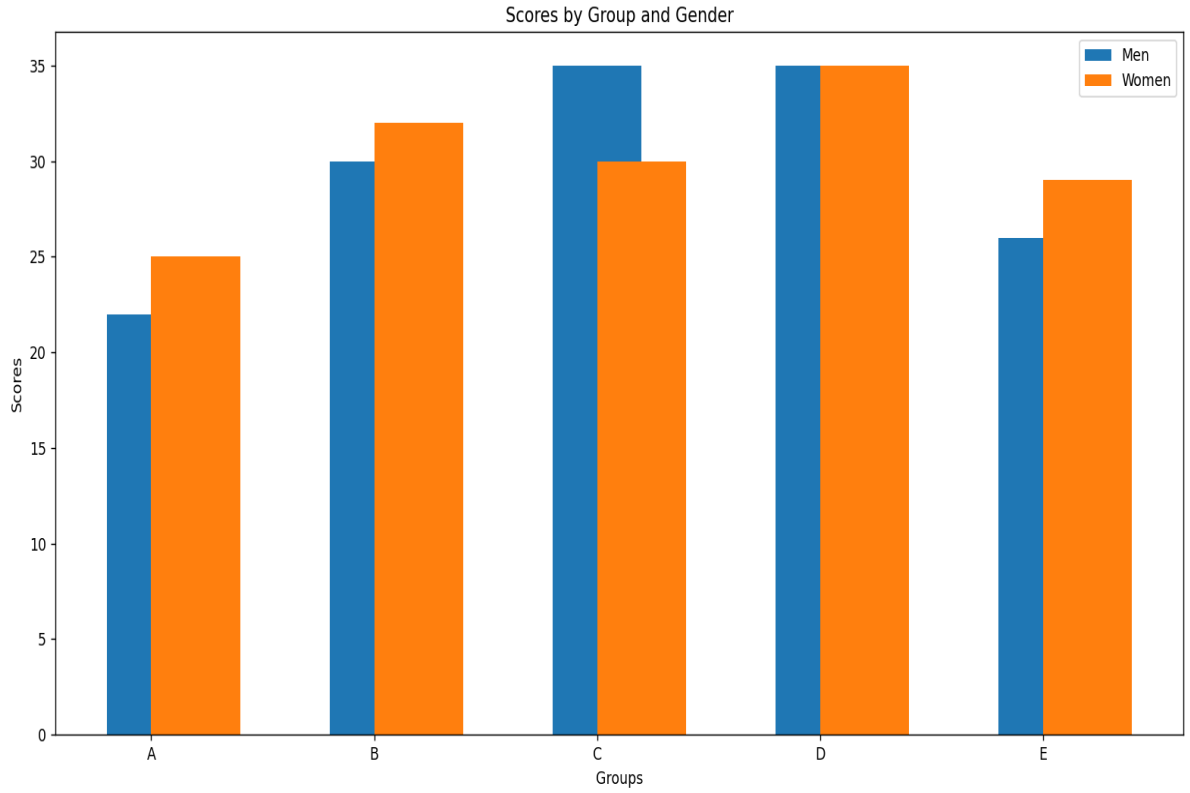
```
import matplotlib.pyplot as plt

groups = ['A', 'B', 'C', 'D', 'E']
men_means = [22, 30, 35, 35, 26]
women_means = [25, 32, 30, 35, 29]

x = range(len(groups))

fig, ax = plt.subplots()
ax.bar(x, men_means, width=0.4, label='Men', align='center')
ax.bar(x, women_means, width=0.4, label='Women', align='edge')

ax.set_xlabel('Groups')
ax.set_ylabel('Scores')
ax.set_title('Scores by Group and Gender')
ax.set_xticks(x)
ax.set_xticklabels(groups)
ax.legend()

plt.show()
```

INPUT

Means (men) = (22, 30, 35, 35, 26)

Means (women) = (25, 32, 30, 35, 29)

OUTPUT



EXPERIMENT :31

AIM

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

CODE

00

31.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/31.py (3.11.0)

File Edit Format Run Options Window Help

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

men_means = [22, 30, 35, 35, 26]
women_means = [25, 32, 30, 35, 29]
men_std = [4, 3, 4, 1, 5]
women_std = [3, 5, 2, 3, 3]

ind = np.arange(len(men_means))
width = 0.35

fig, ax = plt.subplots()

p1 = ax.bar(ind, men_means, width, yerr=men_std, label='Men')
p2 = ax.bar(ind, women_means, width, bottom=men_means, yerr=women_std, label='Women')

ax.axhline(0, color='grey', linewidth=0.8)
ax.set_ylabel('Scores')
ax.set_title('Scores by group and gender')
ax.set_xticks(ind)
ax.set_xticklabels(('G1', 'G2', 'G3', 'G4', 'G5'))
ax.legend()

plt.show()
```

INPUT

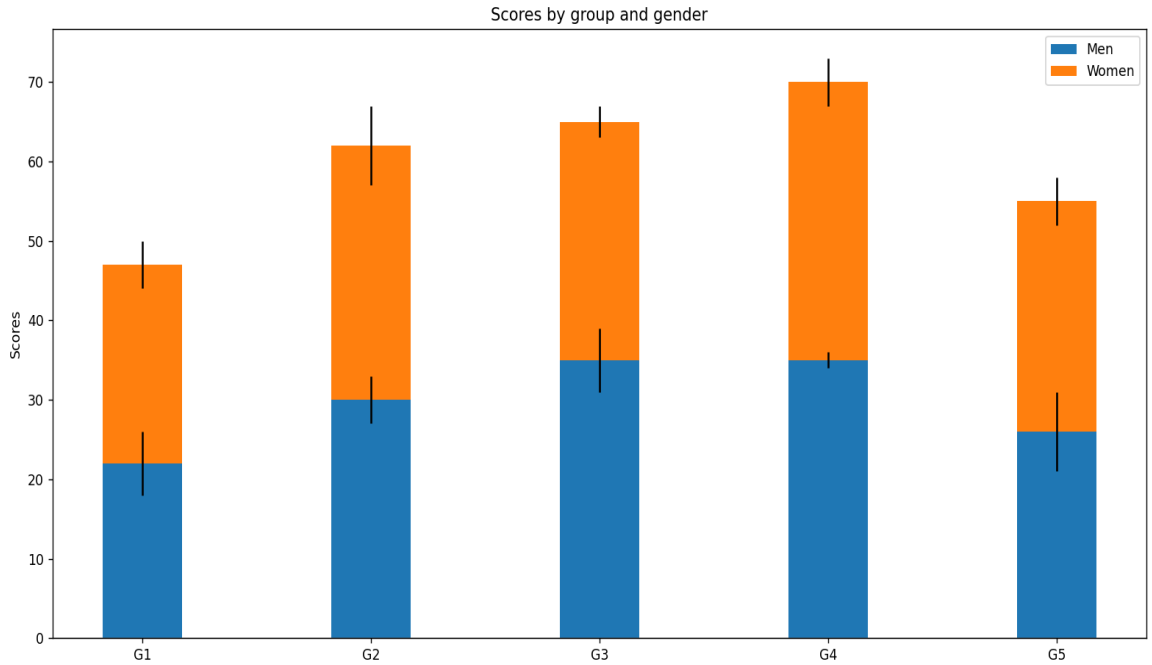
Means (men) = (22, 30, 35, 35, 26)

Means (women) = (25, 32, 30, 35, 29)

Men Standard deviation = (4, 3, 4, 1, 5)

Women Standard deviation = (3, 5, 2, 3, 3)

OUTPUT



EXPERIMENT :32

AIM

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

CODE

32.py - C:/Users/Vishnu/Desktop/DSA0511-Query processing lab/32.py (3.11

File Edit Format Run Options Window Help

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

x = np.random.randn(100)
y = np.random.randn(100)

plt.scatter(x, y)
plt.xlabel('X')
plt.ylabel('Y')
plt.title('Scatter Plot with Random Distribution')
plt.show()
```

INPUT

X=[1,2,3,4,5]

Y=[2,3,5,7,11]

OUTPUT