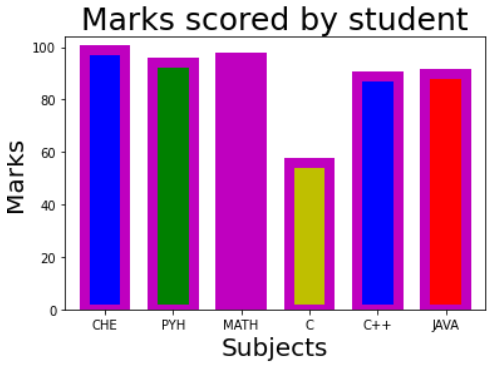
4.a) Write a Python program to Demonstrate how to Draw a Bar Plot using Matplotlib.

```
import matplotlib.pyplot as plt
#%matplotlib inline
subject=['CHE', 'PYH', 'MATH', 'C', 'C++', 'JAVA']
Marks=[99, 94, 96, 56, 89, 90]
plt.xlabel('Subjects', fontsize=20)
plt.ylabel('Marks', fontsize=20)
plt.title('Marks scored by student', fontsize=25)
#plt.figure(figsize=((20, 5)))
plt.bar(subject,Marks, color=['b', 'g','m', 'y', 'b', 'r'], width=0.6, edgecolor='m', linewidth=8, alpha
=1)
 #, width=0.6, color=['b', 'g','m', 'y', 'b', 'r'], edgecolor='g', linewidth=5, alpha=0.3) #, width=0.
4, color=['b', 'g','m', 'y', 'b', 'r'], edgecolor='r', linewidth=5, alpha=0.75)
plt.show()
```

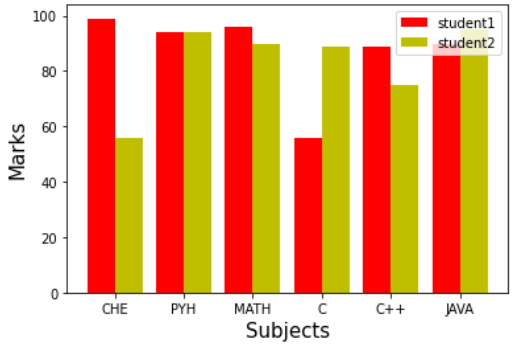
Output




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

subject=['CHE', 'PYH', 'MATH', 'C', 'C++', 'JAVA']
Marks1=[99, 94, 96, 56, 89, 90]
Marks2=[56, 94, 90, 89, 75, 95]

width=0.4
p=np.arange(len(subject))
p1=[j+width for j in p]

plt.xlabel('Subjects', fontsize=15)
plt.ylabel('Marks', fontsize=15)


plt.bar(p, Marks1, width, color=['r'], label='student1')
plt.bar(p1, Marks2,width, color=['y'], label='student2')
plt.legend()
```

```
plt.xticks(p+width/2, subject)
plt.show()
```

output



b) Write a Python program to Demonstrate how to Draw a Scatter Plot using Matplotlib.

```
import matplotlib.pyplot as plt

day=[1, 2 , 3 , 4 , 5, 6]
num=[48, 12, 28, 38, 20, 36]

plt.xlabel('Days', fontsize=15)
plt.ylabel('Number of cases', fontsize=15)
plt.title('Number of cases repored', fontsize=15)

plt.scatter(day, num, s=250, color=['g', 'b', 'r', 'm', 'b', 'g'])
plt.show()
```

output: