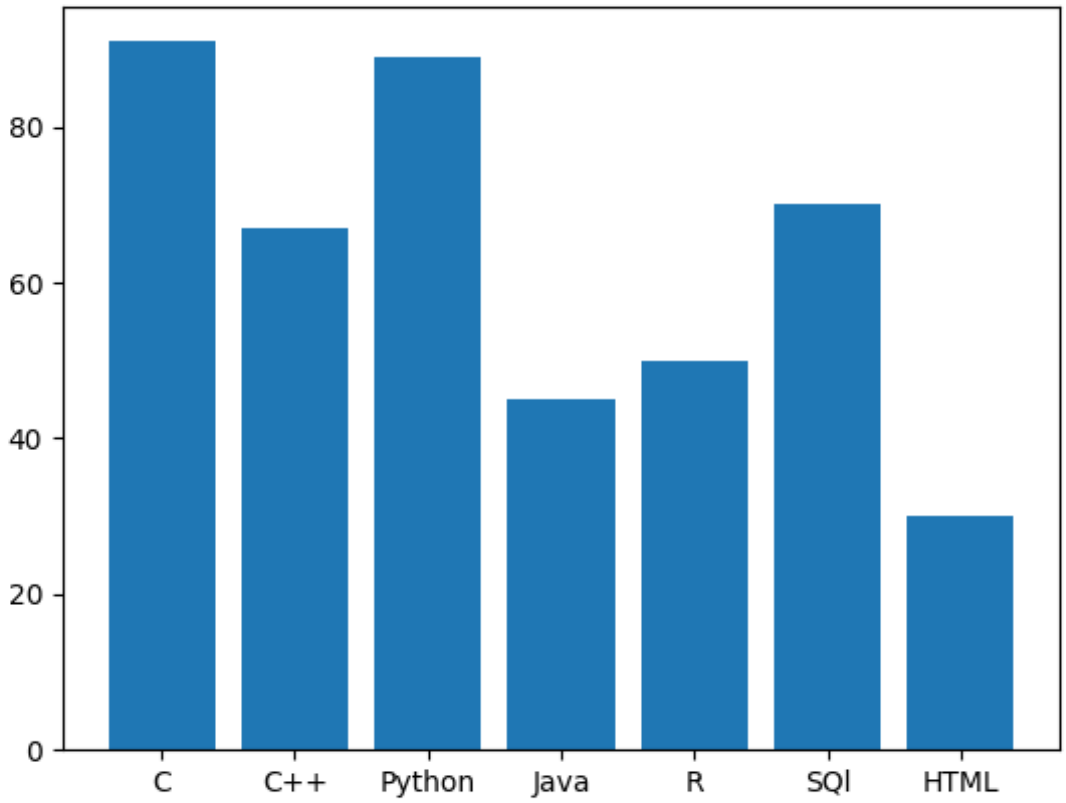
Bar plots are use for potting discrete data values. it represents the different discrete categories.
plt.bar function is use for plotting Bar plot.

#vertical bar graph

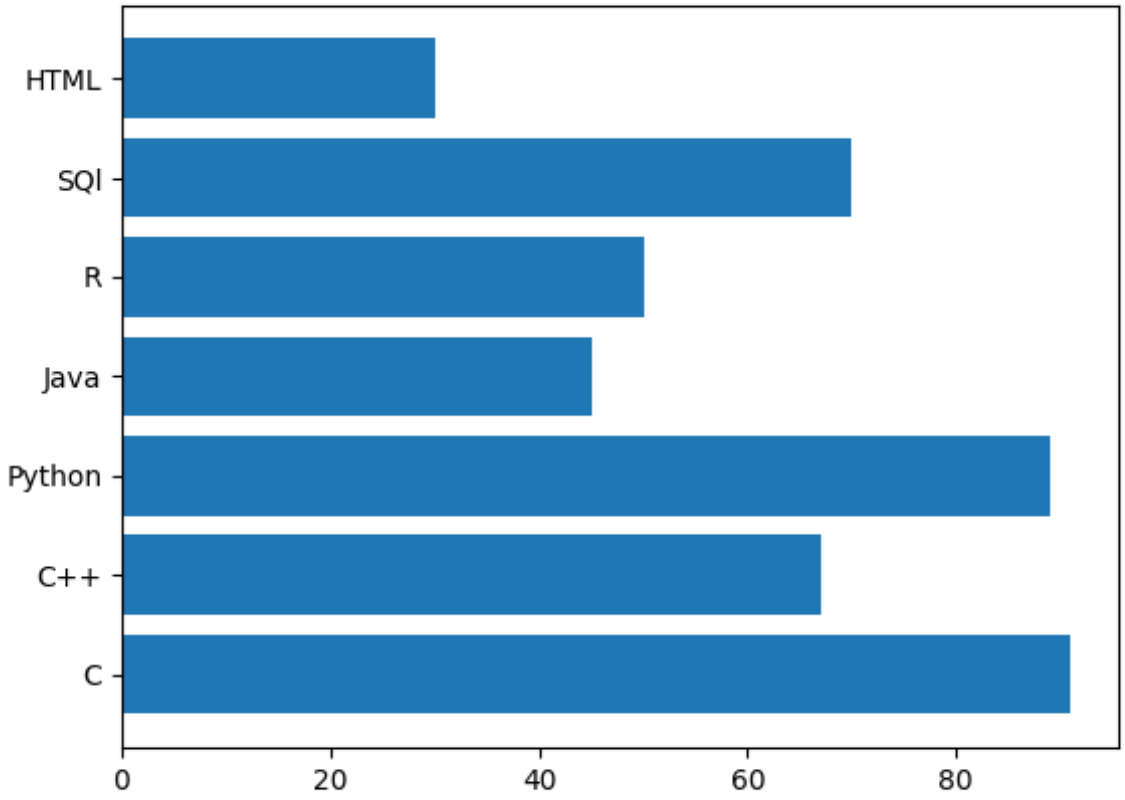
```
import matplotlib.pyplot as plt
import numpy as np
categories = np.array(['C', 'C++', 'Python', 'Java', 'R',
'SQl', 'HTML'])
height = np.array([91, 67, 89, 45, 50, 70, 30])
#function takes 2 parameters first for categories and second
for height(value) of that category.
plt.bar(categories, height)
plt.show()
```



#Horizontal bar graph

plt.barh function is use for plotting horizontal bar graph

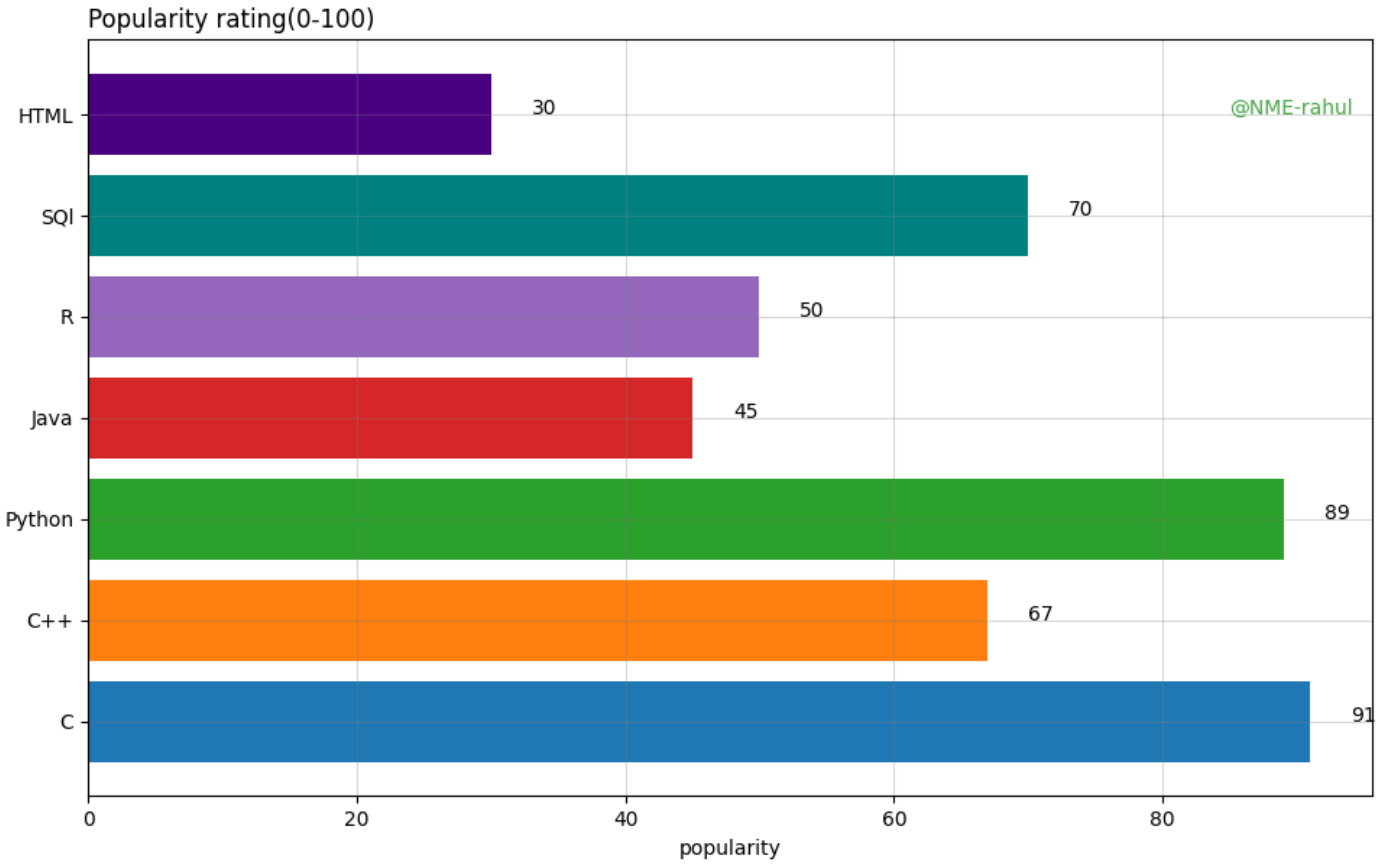
```
plt.barh(categories, height)
plt.show()
```




```
#customizing graph

color_of_categories = ['tab:blue', 'tab:orange', 'tab:green',
'tab:red', 'tab:purple', 'teal', 'indigo']
plt.barh(categories, height, color=color_of_categories)
#plt.text(x, y, str) - x: x-cordinate, y: y-cordinate, str:
string to print
for i, j in enumerate(height):
    plt.text(j + 3, i, str(j), color='black')
#customizing gridlines of plot area
plt.grid(alpha=0.3, color='grey')
plt.title('Popularity rating(0-100)', loc='left')
plt.xlabel('popularity')
#putting watermark
```

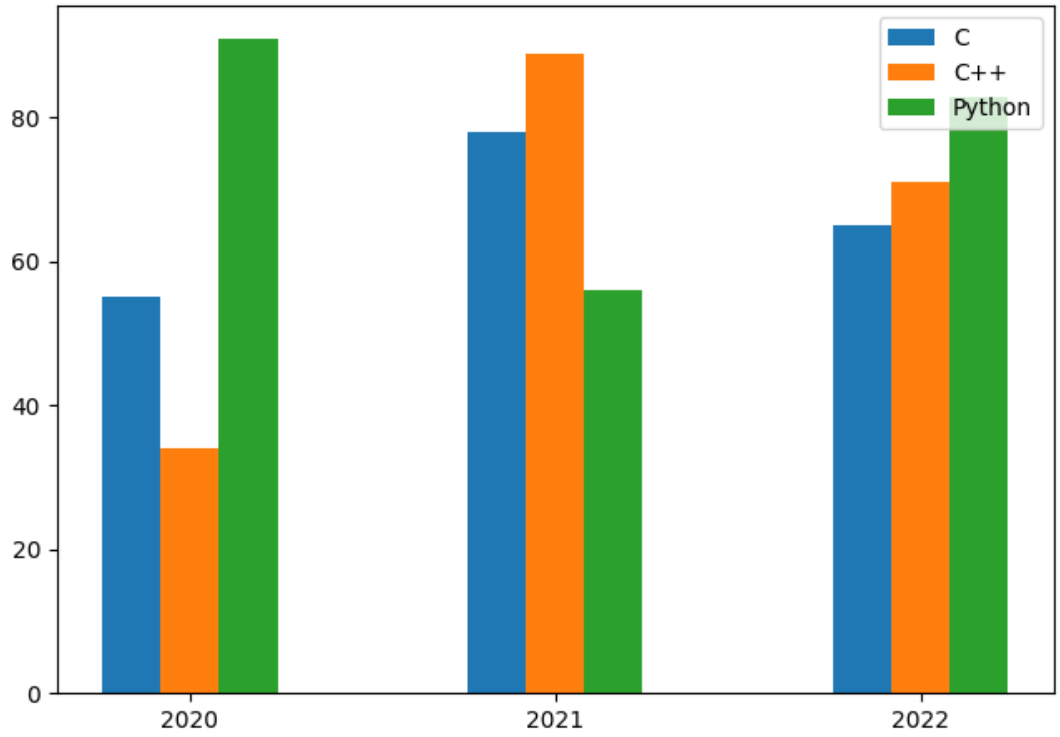
```
plt.text(85, 6, '@NME-rahul', color='green', alpha=0.7)
plt.show()
```




```
#grouped bar

#grouped bars also create by normal plt.bar() function but with
somw trick.
x = np.array([0, 5, 10])
height1 = np.array([55, 78, 65])
height2 = np.array([34, 89, 71])
height3 = np.array([91, 56, 83])
#these adjustments 0.8 will takes bars closer on same
location(position) and it appears grouped
plt.bar(x-0.8, height1, label='C')
plt.bar(x, height2, label='C++')
plt.bar(x+0.8, height3, label='Python')
#plt.xticks(loc, label)
plt.xticks(x, ['2020', '2021', '2022'])
```

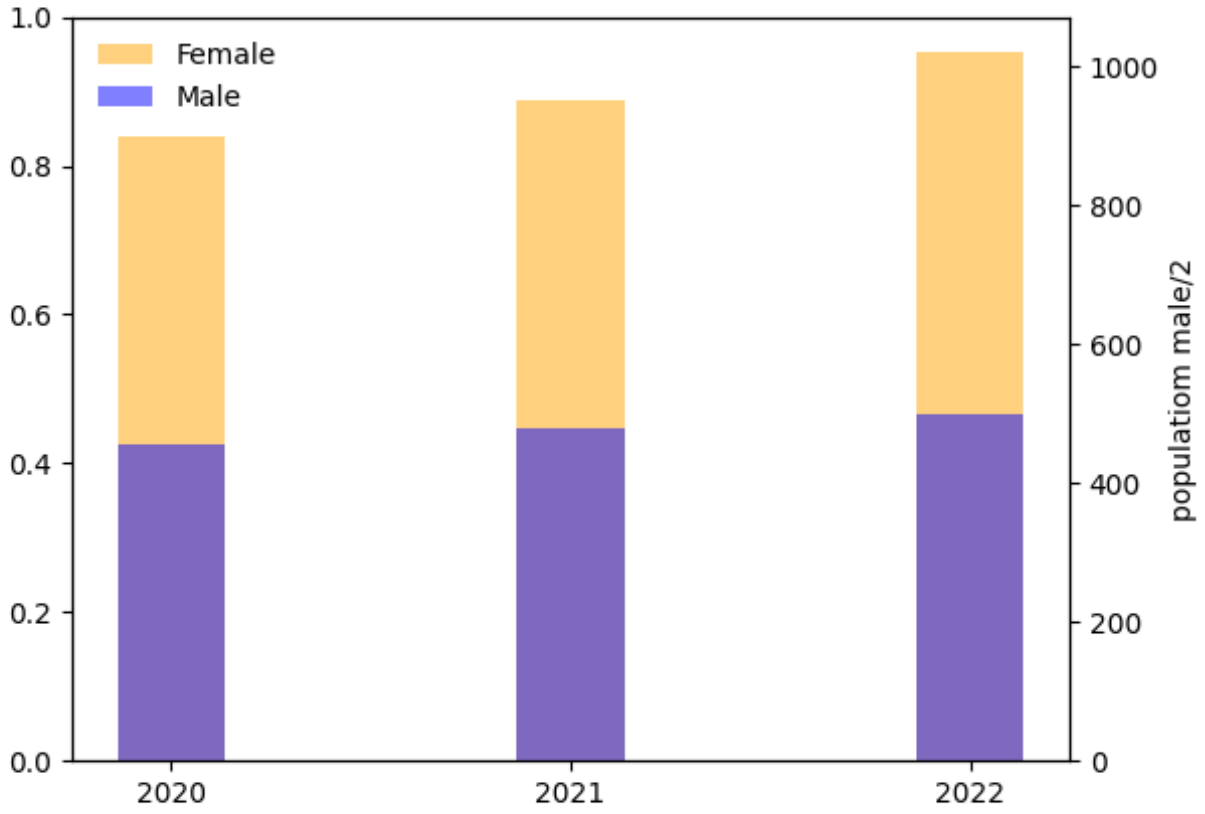
```
plt.legend()
plt.show()
```




```
#stacked bar graph

#stacked bars are also created by normal function.

female = np.array([899, 952, 1020])
male = np.array([910, 960, 1000])
x = np.array([0, 3, 6])
ax = plt.twinx()
plt.bar(x, female, alpha=0.5, label='Female', color='orange')
plt.ylabel('Popultion female')
ax.bar(x, male/2, alpha=0.5, label='Male', color='blue')
ax.set_ylabel('populatiom male/2')
plt.xticks(x, ['2020', '2021', '2022'])
plt.legend(frameon=False)
plt.show()
```


Female
Male
1.0
0.8
0.6
0.4
0.2
0.0
1000
800
600
400
200
0
populatiom male/2
2020
2021
2022