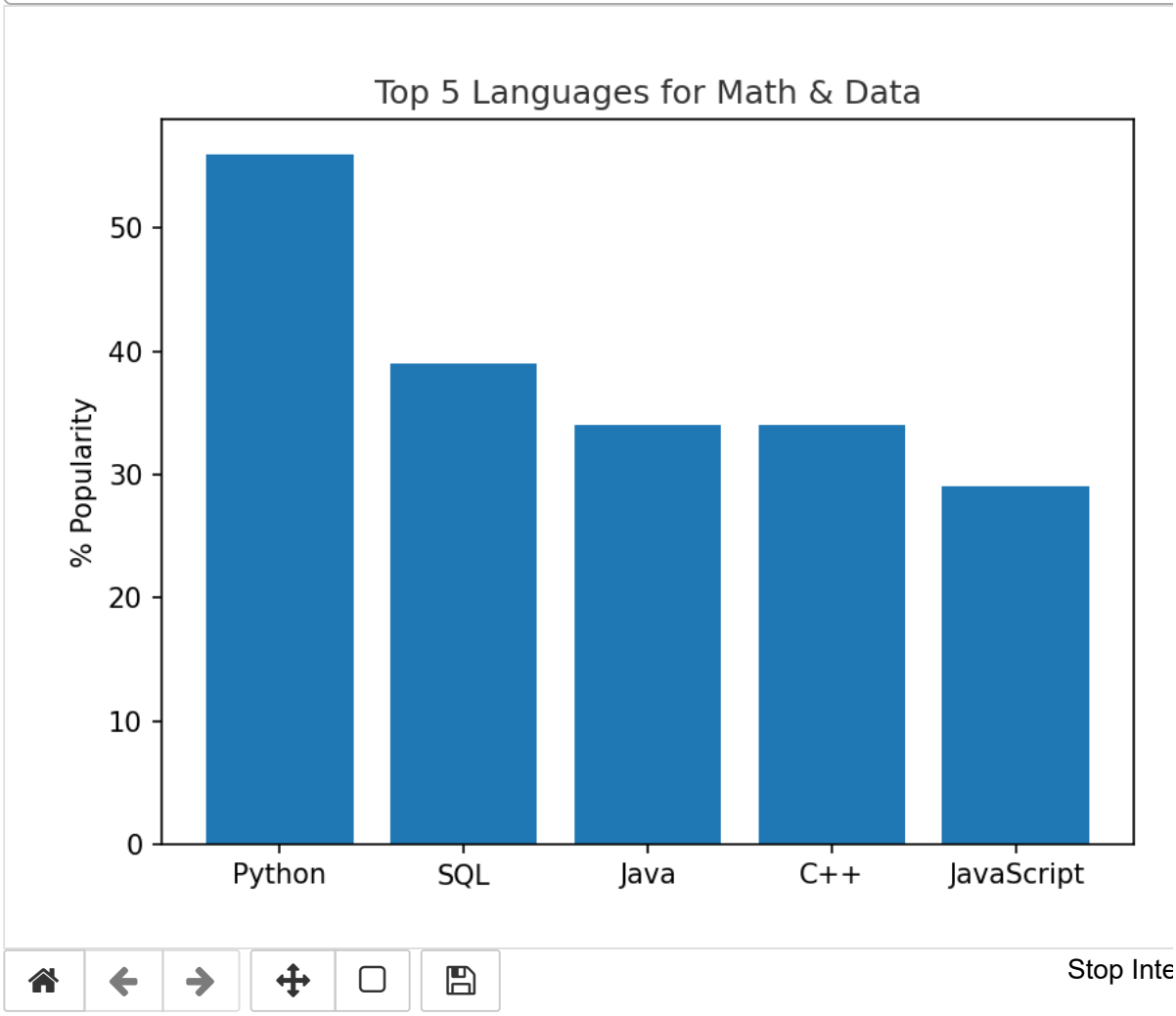
In [18]:

```
import pandas as pd
%matplotlib notebook
import matplotlib as mpl
import matplotlib.pyplot as plt
import numpy as np

plt.figure()

languages =['Python', 'SQL', 'Java', 'C++', 'JavaScript']
pos = np.arange(len(languages))
popularity = [56, 39, 34, 34, 29]
plt.bar(pos, popularity, align='center')
plt.xticks(pos, languages)
plt.ylabel('% Popularity')
plt.title('Top 5 Languages for Math & Data', alpha=0.8)
```

Figure 1



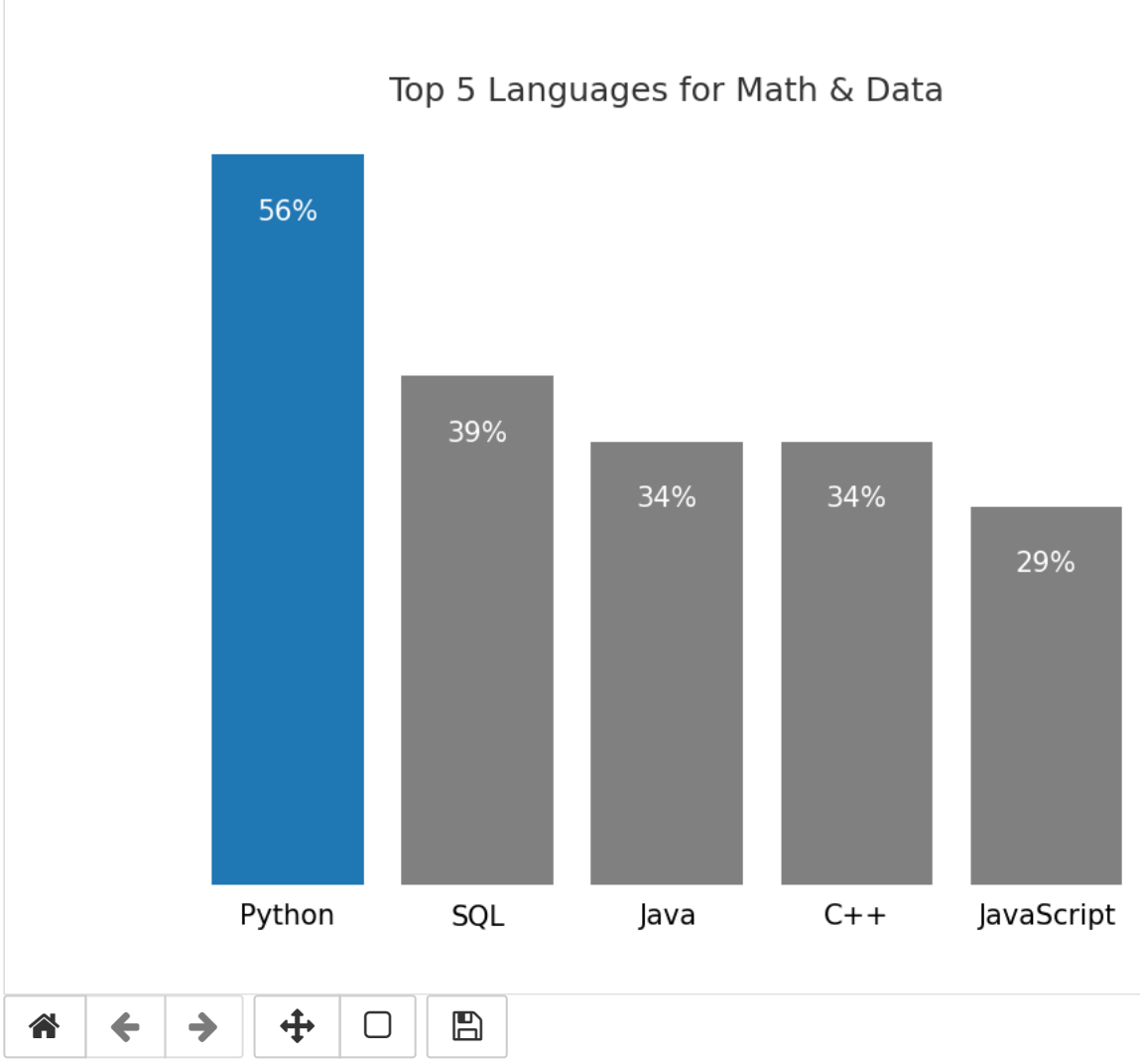
Out[18]:

```
Text(0.5, 1.0, 'Top 5 Languages for Math & Data')
```

In [19]:

```
languages =['Python', 'SQL', 'Java', 'C++', 'JavaScript']
pos = np.arange(len(languages))
popularity = [56, 39, 34, 34, 29]

fig = plt.figure(figsize=(6.5, 5))
ax = fig.add_subplot(111)
rects = plt.bar(pos, popularity, align='center', width=0.8)

plt.xticks(pos, languages)
plt.title('Top 5 Languages for Math & Data', alpha=0.8)

#2. 바 색상 변경
plt.bar(languages, popularity, color = ['tab:blue', 'gray', 'gray', 'gray', 'gray'])

#1. tick들과 테두리 등 삭제
plt.tick_params(axis='x', bottom=False)
plt.yticks(ticks= [])

plt.gca().spines['right'].set_visible(False) #오른쪽 테두리 제거
plt.gca().spines['top'].set_visible(False) #위 테두리 제거
plt.gca().spines['left'].set_visible(False) #왼쪽 테두리 제거
plt.gca().spines['bottom'].set_visible(False) #아래쪽 테두리 제거

#3. 라벨 입력
for i, rect in enumerate(rects):
    ax.text(rect.get_x() + rect.get_width()/2, rect.get_height()-5, str(popularity[i]) + '%', ha='c
```

Figure 2


Top 5 Languages for Math & Data
56%
39%
34%
34%
29%
Python
SQL
Java
C++
JavaScript