In [1]:

```
import pandas as pd
import matplotlib.pyplot as plt
```

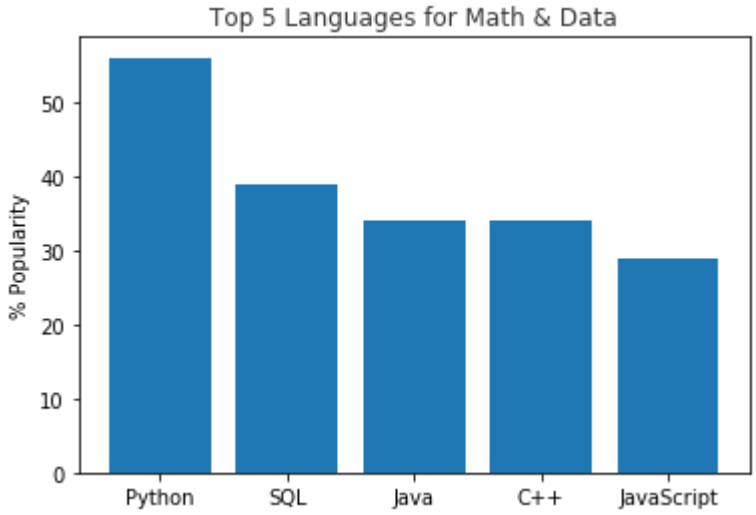
In [2]:

```
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)
```

Out[2]:

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

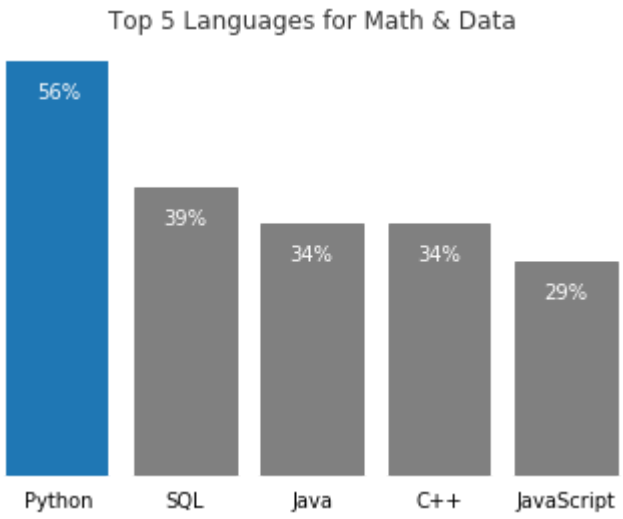


In [75]:

```
#과제

import numpy as np
plt.figure()

languages=['Python','SQL','Java','C++','JavaScript']
pos=np.arange(len(languages))
popularity=[56,39,34,34,29]
res=plt.bar(pos,popularity,align='center')
plt.gca().spines['right'].set_visible(False)
plt.gca().spines['left'].set_visible(False)
plt.gca().spines['top'].set_visible(False)
plt.gca().spines['bottom'].set_visible(False)
plt.xticks(pos,languages)
plt.tick_params(
    axis='x',          # changes apply to the x-axis
    which='both',      # both major and minor ticks are affected
    bottom=False,      # ticks along the bottom Edge are off
    top=False)         # labels along the bottom Edge are off
plt.yticks([])
plt.title('Top 5 Languages for Math & Data', alpha=0.8)
for i, rect in enumerate(res):
    plt.text(rect.get_x() + rect.get_width() / 2.0,rect.get_height()-5, str(popularity[i]) + '%'
, ha='center',
             color='white')
for i in range(len(res)):
     if i==0:
        continue
     res[i].set_color('gray')
```




In [ ]:

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