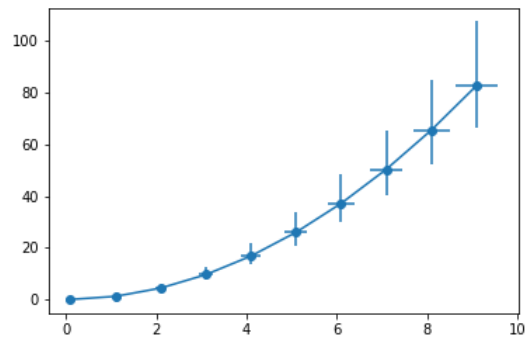


Figure 1: Error bars on a line chart



1 Adding error bars to charts

1.1 Adding error bars to line plots

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

%matplotlib inline

# example data
x = np.arange(0.1, 10, 1)
y = x ** 2

# calculate example errors (could also be from list or NumPy array)
lower_y_error = y * 0.2
upper_y_error = y * 0.3
y_error = [lower_y_error, upper_y_error]
lower_x_error = x * 0.05
upper_x_error = x * 0.05
x_error = [lower_x_error, upper_x_error]

# To use only x or y errors simple omit the relevant argument

plt.errorbar(x, y, yerr = y_error, xerr = x_error, fmt='-o')

plt.show()
```

1.2 Adding error bars to bar charts

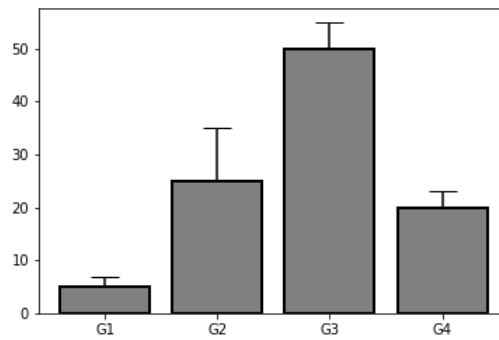
```
import matplotlib.pyplot as plt
import numpy as np

%matplotlib inline

x=[1,2,3,4]
y=[5.,25.,50.,20.]
yerr_upper=[2,10,5,3]
yerr_lower=np.zeros(len(yerr_upper))

fig, ax = plt.subplots()
ax.bar(x,y,
```

Figure 2: Error bars on a barchart



```
width=0.8,  
color='0.5',  
edgecolor='k',  
yerr=[yerr_lower,yerr_upper],  
linewidth = 2,  
capsize=10)  
  
ax.set_xticks(x)  
ax.set_xticklabels(('G1', 'G2', 'G3', 'G4'))  
  
plt.savefig('plot_21.png')  
  
plt.show()
```