Homework 1 writeup template

Problem 1

In [1]:
```python
import numpy as np
import matplotlib.pyplot as plt


# First create the array "x" between -5 and 5
x = np.arange(-5, 5+0.5, 0.5)

# Then we want to plot y = x, so we define that
y = x

# Now that we have both arrays plotted we can plot using "plt.plot"
plt.plot(x, y, 'k') # This creates a black line.

# Suppose we also want to highlight a few points, the points at which we have data,
# we can do so with blue markers.
plt.plot(x, y, 'bo')

plt.xlabel('x')
plt.ylabel('y')
```
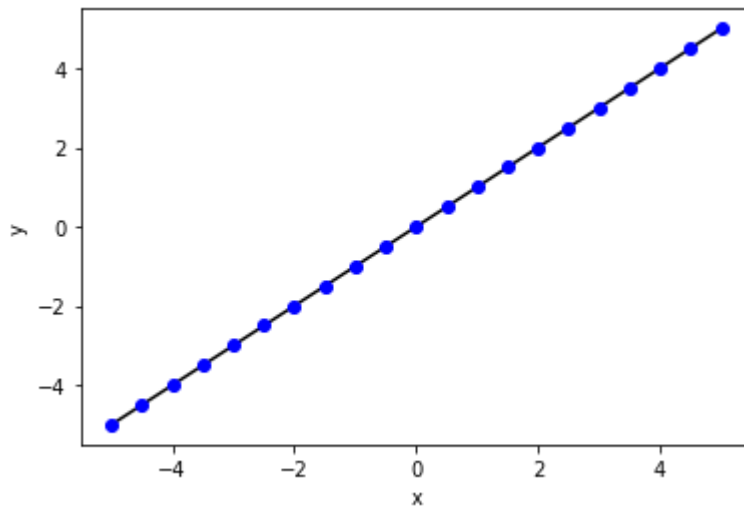
Out[1]:
```
Text(0, 0.5, 'y')
```


The blue dots and black curve above are related by the function they illustrate, y = x with intervals of 0.5.

Problem 2

In [1]:
```python
import numpy as np
import matplotlib.pyplot as plt
```

```
# First create the array "x" between -5 and 5
x = np.arange(-5, 5+0.5, 0.5)

# Then we want to plot y = x, so we define that
y = x**2

# Now that we have both arrays plotted we can plot using "plt.plot"
plt.plot(x, y, 'k') # This creates a black line.

# Suppose we also want to highlight a few points, the points at which we have data,
# we can do so with blue markers.
plt.plot(x, y, 'bo')

plt.xlabel('x')
plt.ylabel('y')
plt.title('The Parent Quadratic Function')
```

Out[1]: Text(0.5, 1.0, 'The Parent Quadratic Function')