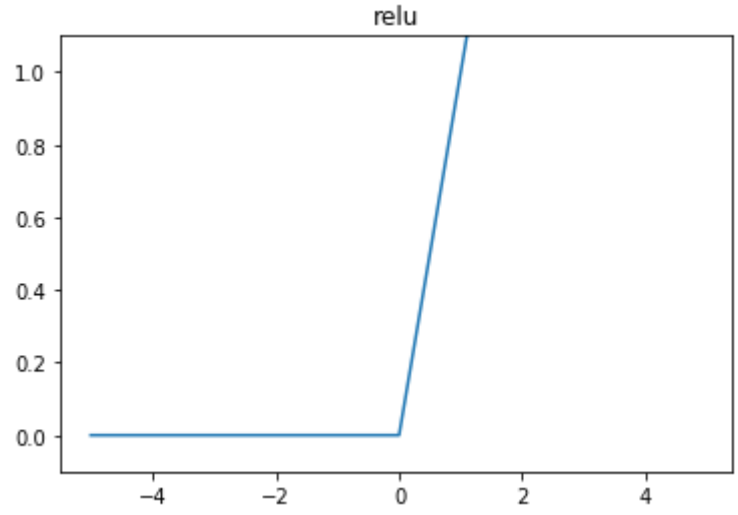
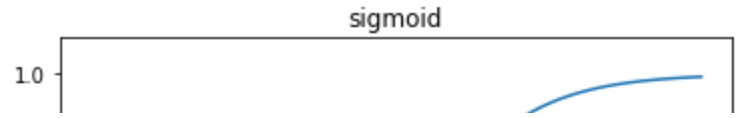
```
import numpy as np
import matplotlib.pylab as plt


def relu(x):
    return np.maximum(0, x)


def sigmoid(x):
    return 1 / (1 + np.exp(-x))


def step_function(x):
    return np.array(x > 0, dtype=np.int)


X = np.arange(-5.0, 5.0, 0.1)


Y1 = relu(X)
Y2 = sigmoid(X)
Y3 = step_function(X)


plt.plot(X, Y1)
plt.ylim(-0.1, 1.1)
plt.title('relu')
```

```
Text(0.5, 1.0, 'relu')
```




```
plt.plot(X, Y2)
plt.ylim(-0.1, 1.1)
plt.title('sigmoid')
```

```
Text(0.5, 1.0, 'sigmoid')
```




```
plt.plot(X, Y3)
plt.ylim(-0.1, 1.1)
plt.title('step function')
```