Assignment No:1

Title :Activation function that are being used in neural network.

Name : Tavhare Ruchita Sharad

Roll No :58

In [70]:
```python
import numpy as np
```

In [72]:
```python
import matplotlib.pyplot as plt
```

In [74]:
```python
def sigmoid(x):
    return 1/(1+np.exp(-x))
```

In [76]:
```python
def relu(x):
    return np.maximum(0,x)
```

In [78]:
```python
def tanh(x):
    return np.tanh(x)
```

In [80]:
```python
def softmax(x):
    return np.exp(x)/np.sum(np.exp(x))
```

In [82]:
```python
x = np.linspace(-10,10,100)
```

In [84]:
```python
fig,axs =plt.subplots(2,2,figsize=(8,8))
axs[0,0].plot(x,sigmoid(x))
axs[0,0].set_title('Sigmoid')
axs[0,1].plot(x,relu(x))
axs[0,1].set_title('ReLU')
axs[1,0].plot(x,tanh(x))
axs[1,0].set_title('Tanh')
axs[1,1].plot(x,softmax(x))
axs[1,0].set_title('softmax')
```

Out[84]: Text(0.5, 1.0, 'softmax')
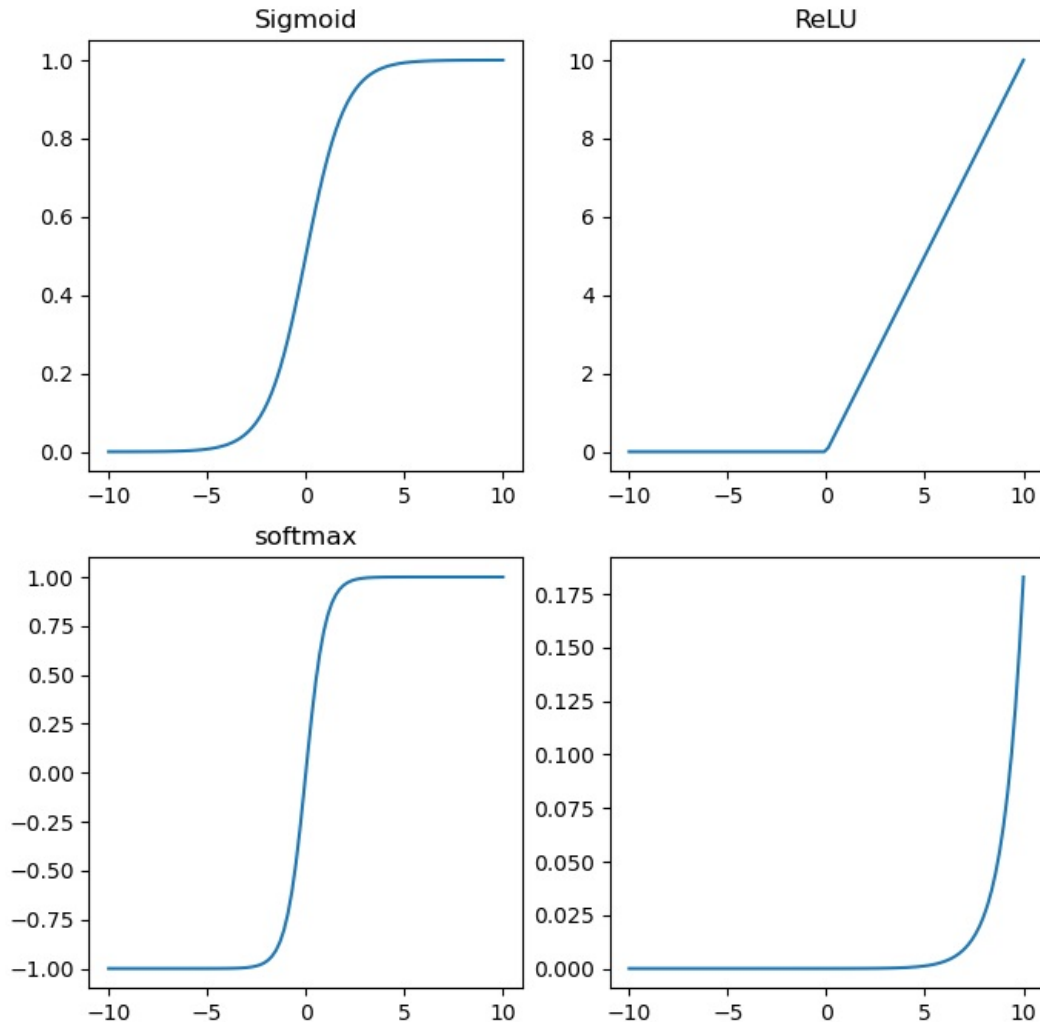
```
In [86]:  fig.suptitle('Common Activation Function')

Out[86]:  Text(0.5, 0.98, 'Common Activation Function')

In [88]:  for ax in axs.flat:
              ax.set(xlabel ='x',ylabel = 'y')

In [90]:  plt.subplots_adjust(left =0.1,bottom=0.1, right =0.9,wspace=0.4,hspace=0.4)

          <Figure size 640x480 with 0 Axes>

In [92]:  plt.show()

In [ ]:
```

Loading [MathJax]/jax/output/CommonHTML/fonts/TeX/fontdata.js