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```
In [6]: # sigmoid function equation 1/ 1+e^-x
# range from 0 to 1
import math

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

```
In [7]: sigmoid(100)
```

```
Out[7]: 1.0
```

```
In [9]: sigmoid(1)
```

```
Out[9]: 0.7310585786300049
```

```
In [11]: sigmoid(-55)
```

```
Out[11]: 1.299581425007503e-24
```

```
In [13]: sigmoid(0.5)
```

```
Out[13]: 0.6224593312018546
```

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```
In [14]: # tanh function
# range is -1 to +1
def tanh(x):
    return(math.exp(x) - math.exp(-x)) / (math.exp(x) + math.exp(-x))
```

```
In [16]: tanh(60)
```

```
Out[16]: 1.0
```

```
In [18]: tanh(43)
```

```
Out[18]: 1.0
```

```
In [20]: tanh(0.4)
```

```
Out[20]: 0.37994896225522484
```

```
In [22]: tanh(-1)
```

```
Out[22]: -0.7615941559557649
```

```
In [24]: tanh(0)
```

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Out[24]: 0.0

In [26]: `tanh(1)`

Out[26]: 0.7615941559557649

In [27]:

```
# Relu function
# value remains same for the positive value and for the negative value it will be the zero
def relu(x):
    return max(0,x)
```

In [29]: `relu(-8)`

Out[29]: 0

In [31]: `relu(34)`

Out[31]: 34

In [33]: `relu(1)`

Out[33]: 1

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```
In [35]: relu(-4)
```

```
Out[35]: 0
```

```
In [39]: def leaky_relu(x):  
         return max(0.1*x ,x)
```

```
In [41]: leaky_relu(5)
```

```
Out[41]: 5
```

```
In [43]: leaky_relu(-1)
```

```
Out[43]: -0.1
```

```
In [45]: leaky_relu(100)
```

```
Out[45]: 100
```

```
In [ ]: |
```

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