**Name: Gaurang Vaghela**

**Rollno: TEAD-22561**

**ANN (SL-II)**

**Practical 1  
Problem Statement:** Write a Python program to plot a few activation functions that are being used in neural networks.

**Code:**import numpy as np

import matplotlib.pyplot as plt

x = np.linspace(-5, 5, 100)

activation\_functions = {

'Sigmoid': 1 / (1 + np.exp(-x)),

'Tanh': np.tanh(x),

'ReLU': np.maximum(0, x),

'Softmax': np.exp(x) / np.sum(np.exp(x))

}

for i, (name, y) in enumerate(activation\_functions.items(), start=1):

plt.figure(i)

plt.plot(x, y, label=name)

plt.xlabel('Input')

plt.ylabel('Activation')

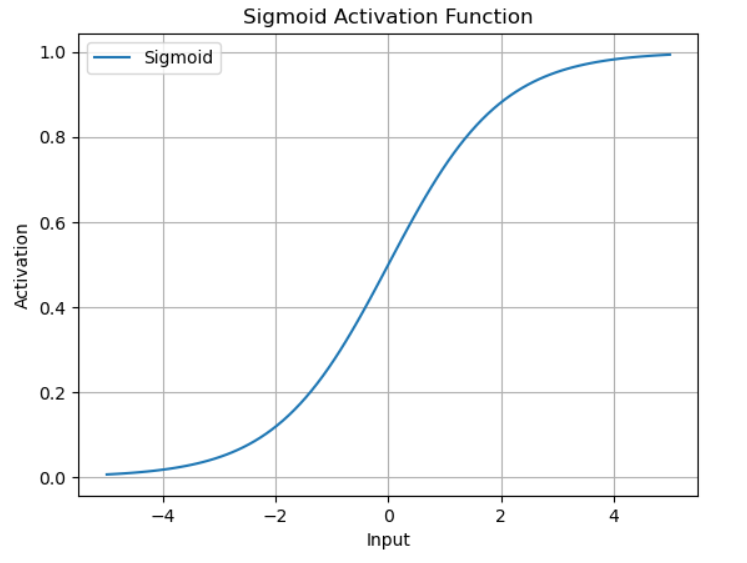
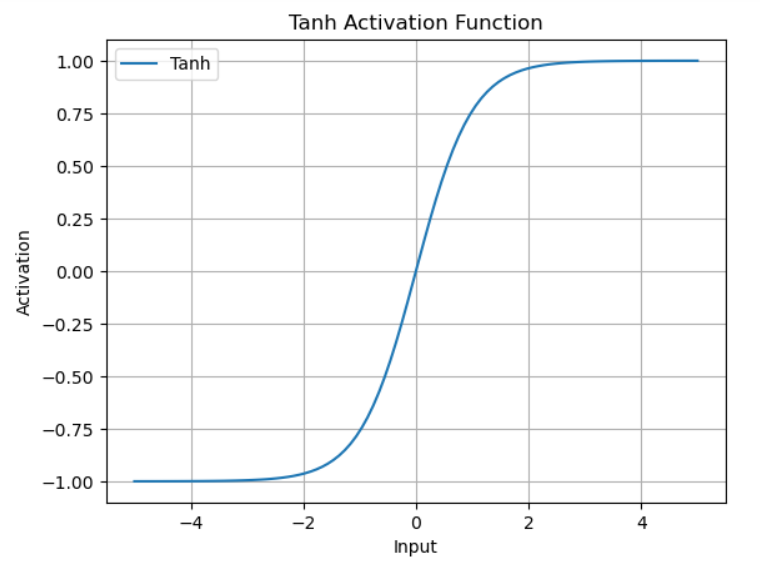
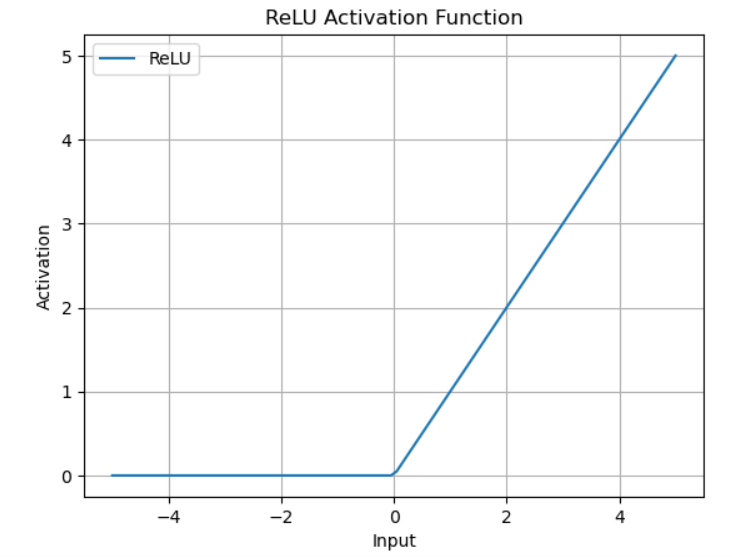
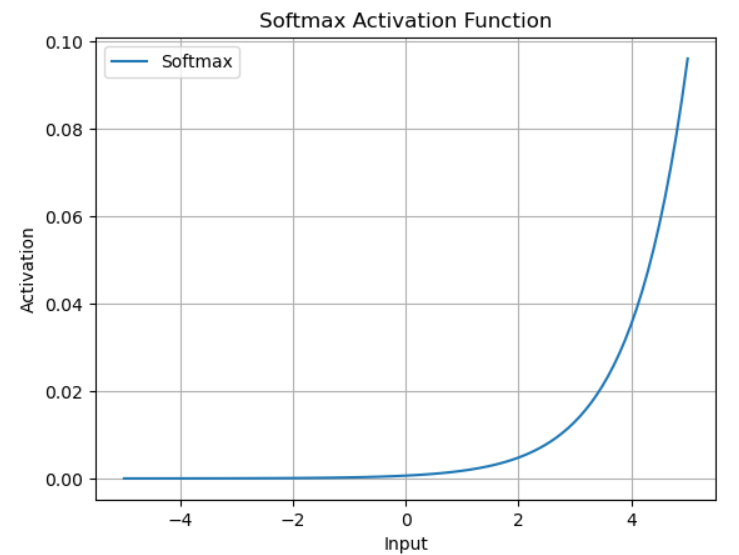
plt.title(f'{name} Activation Function')

plt.legend()

plt.grid(True)

plt.show()

**Output:**

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