**Report**

**Problem Statement**:- Here we have to predict the species of flowers and it belongs to classification Problem . we have to choose most suitable activation function according to data set.

The choice of Activation Functions (AF) has proven to be an important factor that affects the performance of an Artificial Neural Network (ANN). Use a 1-hidden layer neural network model that adapts to the most suitable activation function according to the data-set. The ANN model can learn for itself the best AF to use by exploiting a flexible functional form, k0 + k1 ∗ x with parameters k0, k1 being learned from multiple runs

**EXPECTED RESULTS**:- A technical report containing implementation details (algorithm, initial settings such as sampling the parameters k0, k1 from some distribution, parameter updates on epochs, final parameter values at the end of training, train vs test loss, train and test accuracy, F1-Score, plot of the loss function vs. epochs).

**DataSet**:- Iris Dataset

**Which activation function is used and why?**

• RELU Stands for Rectified linear unit. It is the most widely used activation function. Chiefly implemented in hidden layers of Neural network.

• Value Range :- [0, inf)

• Nature :- non-linear, which means we can easily backpropagate the errors and have multiple layers of neurons being activated by the ReLU function.

• Uses :- ReLu is less computationally expensive than tanh and sigmoid because it involves simpler mathematical operations. At a time only a few neurons are activated making the network sparse making it efficient and easy for computation.

RELU learns much faster than sigmoid and Tanh function.