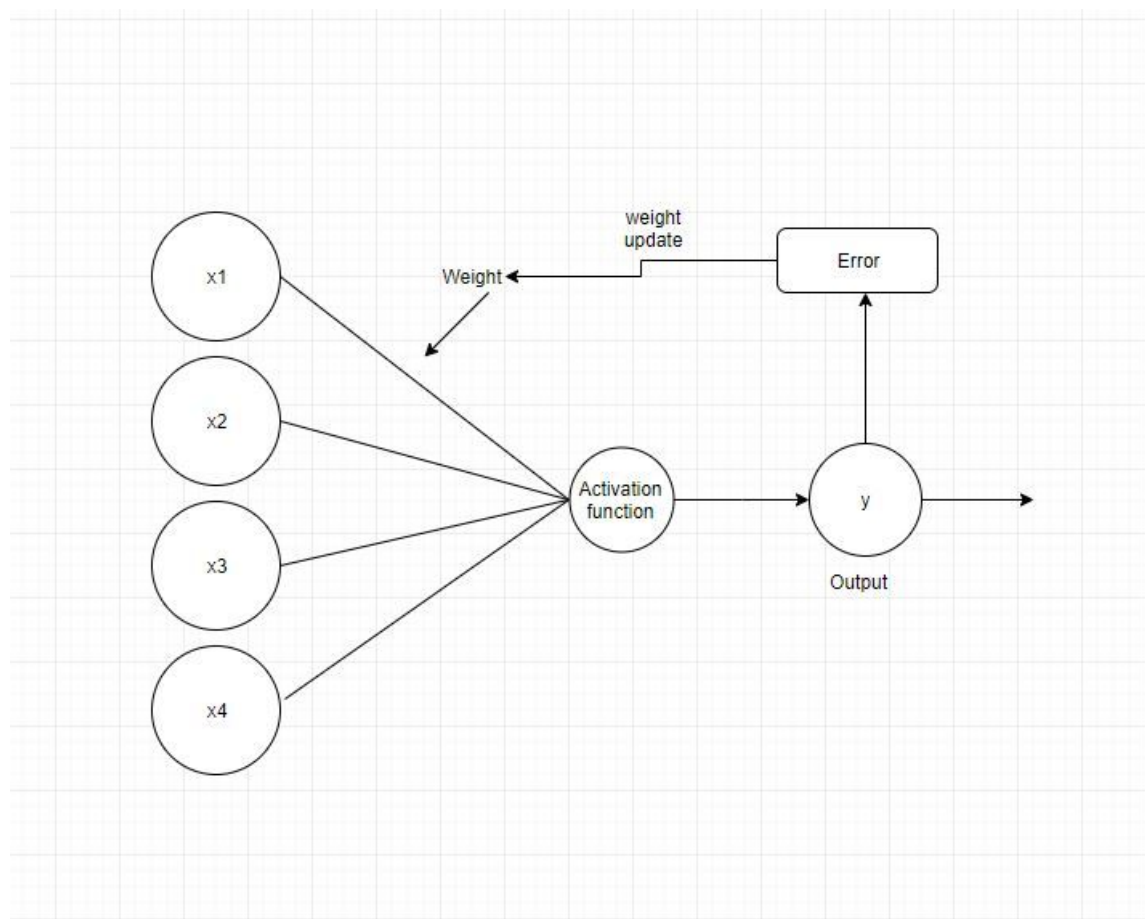**Khazita Seiya Sadanti**
16/392771/PA/17075
Task2 Linear Classifier Report

This experiment will use the Iris Data Set, which consist of 150 data each epoch. Also, this time we will use 100 epoch. It will be implemented in Python by using Single Layer Perceptron technique.

The architecture:

Explanation:
There exist 4 variables of input. After operating them with the initial weight (might be random numbers) and going through some functions, the input data will then give the result of predictions. The predictions here are going to give the result of 1, when the value of the sigmoid > 0.5 and give the result of 0, when the value of the sigmoid < 0.5. After that, the data might also give some errors. The weight are then be updated, so

that it will give the new value of the input data. The whole process are proceed repeatedly in the loop.

The link of github: https://khazitas.github.io/task2-slp/.

Steps:
- Determine an input file consist of the dataset which is going to be used
- By using Python, open the input file that is already determined previously
- Create functions to declare Theta, Bias, Dtheta, and Dbias
- Create functions to calculate the Target, Sigmoid, Prediction, the error and accuracy, also to plot both charts
- Call all the functions in a loop, so that the machine will then try to get less error and higher accuracy by updating the weight for each iteration

Results
1. Error/Cost Chart
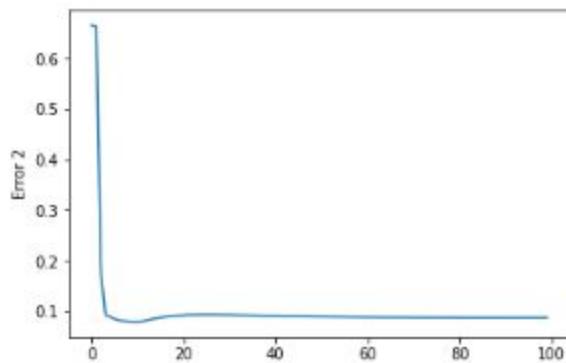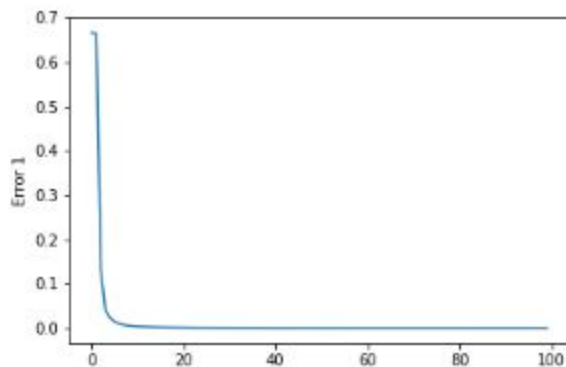
2. Accuracy Chart
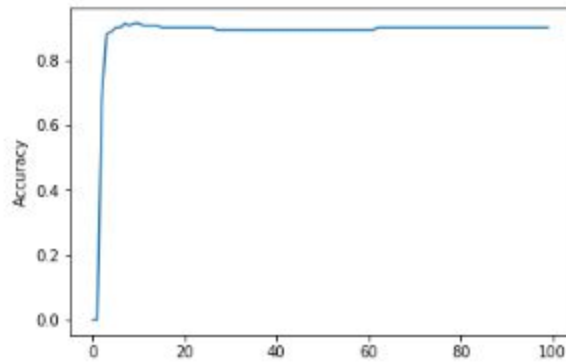
As we can see from the charts, the more epoch the machine read, the less error it will get. The accuracy level also gets higher. We could say that the Iris Data Set has successfully learned by the machine.