**Solution Report Created by: Dhananjay Pande**

**Analysis of IRIS data set using PyTorch.**

1. **Objective**

The aim is to classify the given dataset into three species i.e., setosa, versicolor, or virginica.

1. **Targets**

Flower species

1. **Data source**

PyTorch Default IRIS dataset

1. **Method Used**

Creation of Artificial Neural Network (A.N.N) using PyTorch.

1. **Data Type**

CSV format

1. **Analysis Tools Used**

* Language: Python 3.7.4
* Environment: Jupyter
* Libraries Installed: PyTorch, Pandas, NumPy, MatplotLib, SKLearn

**7. Analysis**

1. **Importing Libraries**

Text

Description automatically generated

1. **Extraction of Data**

Graphical user interface, text, application, email

Description automatically generated

III. **Creation of Neural Network**

We have created a Python Class named as “Model” for this analysis, as depicted below:

Graphical user interface, text, application, email

Description automatically generated

**IV.** **Splitting the data.**

The dataset has been split into two parts:

Training- The training of data is used to train and create the A.N.N model.

Testing- The testing of data is used to qualify performance.

Graphical user interface, text, application, email

Description automatically generated

**V:** **Training and Testing the data/Conclusion**

The training and testing of data has been represented in the image underneath:

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Description automatically generated

For each epoch, the parameter is updated by following command:

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Description automatically generated

**Final Parameter Values:**

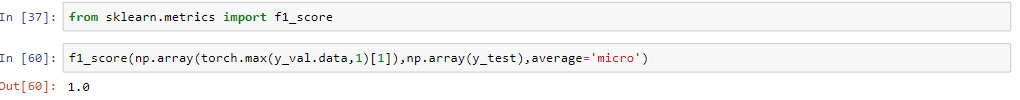


**Plots for Training loss v/s Test loss & Training v/s Test Accuracy:**

Graphical user interface, chart

Description automatically generated

**F1-Score:**



**Loss Function Plot:**

Graphical user interface, application

Description automatically generated

**GitHub Link:**