

Assignment 1 – Solution
Introduction to Deep Learning

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Q1: How many total samples are present in the Iris dataset, and how many belong to each class?

A1: There are 150 total samples in the Iris dataset, Class distribution: Setosa: 50, Versicolor: 50, Virginica: 50

Q2: What are the minimum, maximum, and average values of the petal length feature?

A2: Minimum: 1.0 cm, Maximum: 6.9 cm, Average: ≈ 3.76 cm

Q3: Which feature appears to be the most useful for distinguishing between different species? Justify your answer with reasoning.

A3: Petal length is the most useful feature for distinguishing species.

Q4: What type of machine learning problem does the Iris dataset represent, and why?

A4: The Iris dataset represents a supervised classification problem.

Q5: If you were to use a deep learning model for classifying the Iris dataset, which type of neural network architecture would you choose, and why?

A5: I would use a simple Feedforward Neural Network (Multilayer Perceptron, MLP).

The dataset is small and structured (tabular data). A deep or complex model like CNN or RNN is not necessary. An MLP with one or two hidden layers can effectively learn the relationships between the input features and the species labels without overfitting.