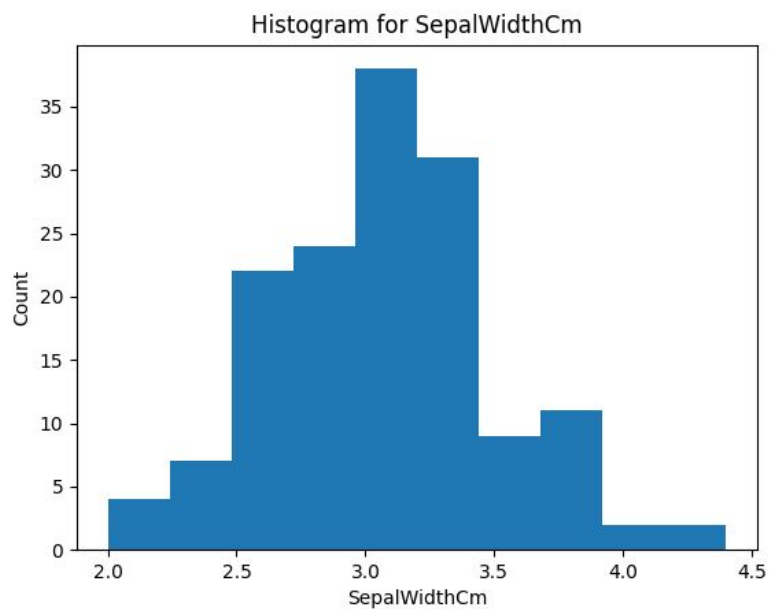
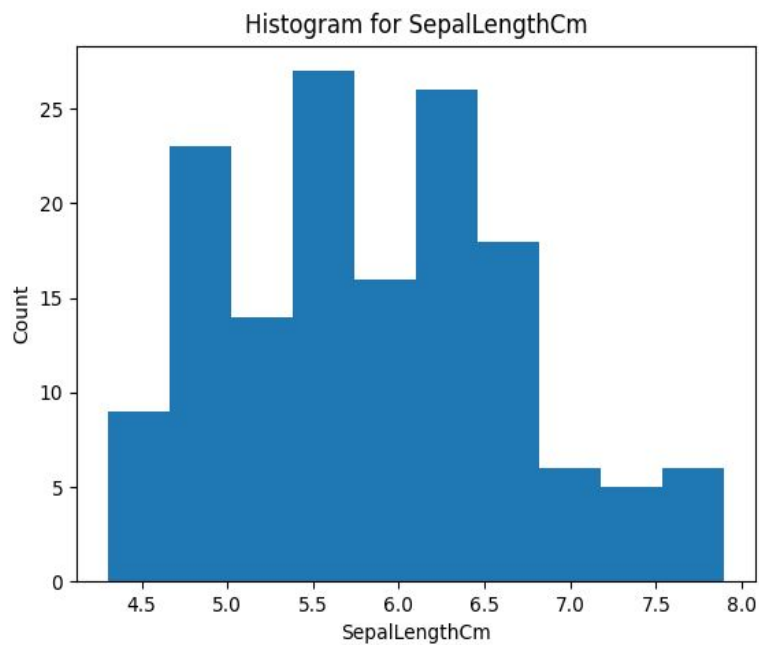
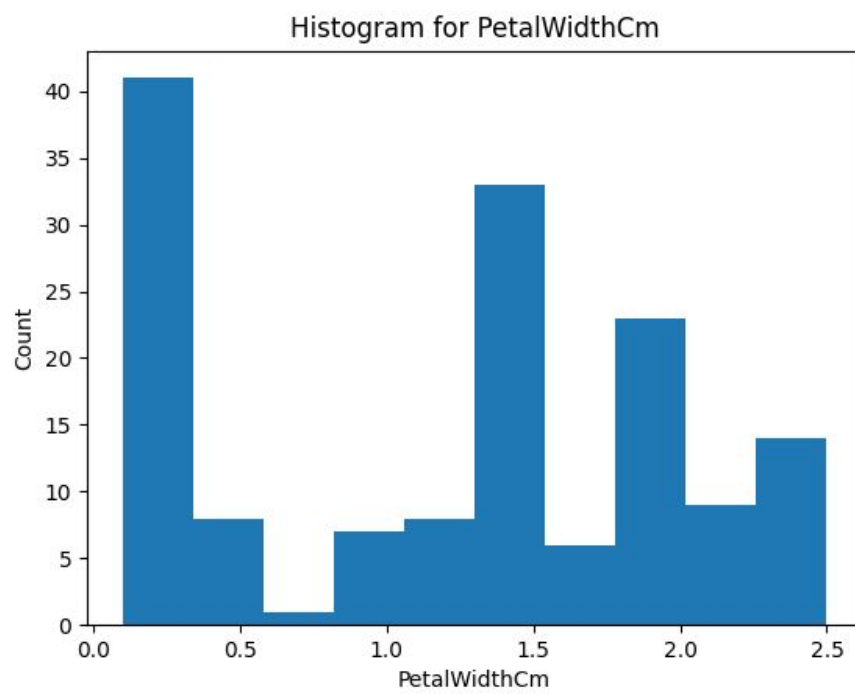
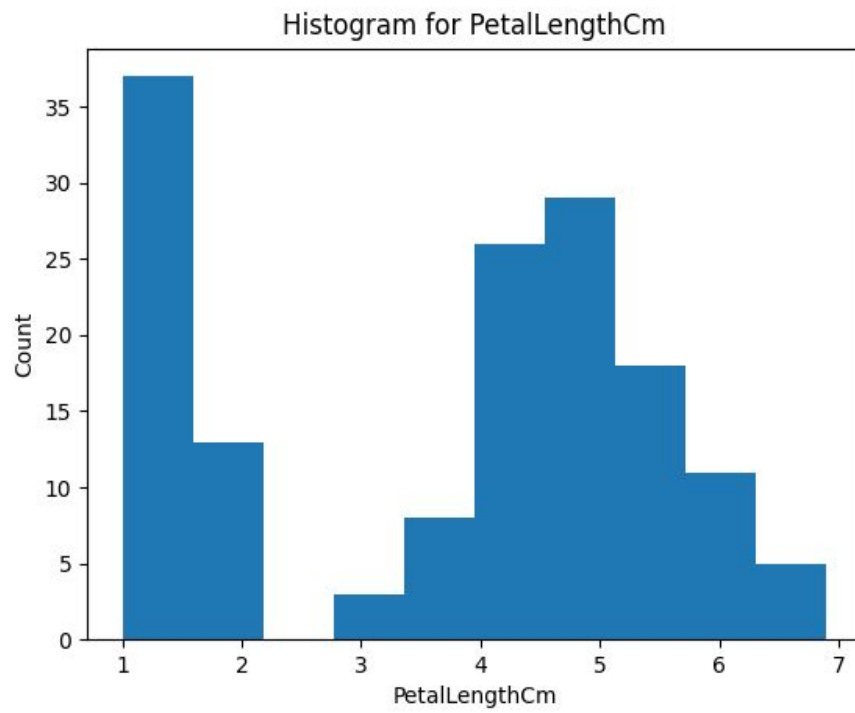


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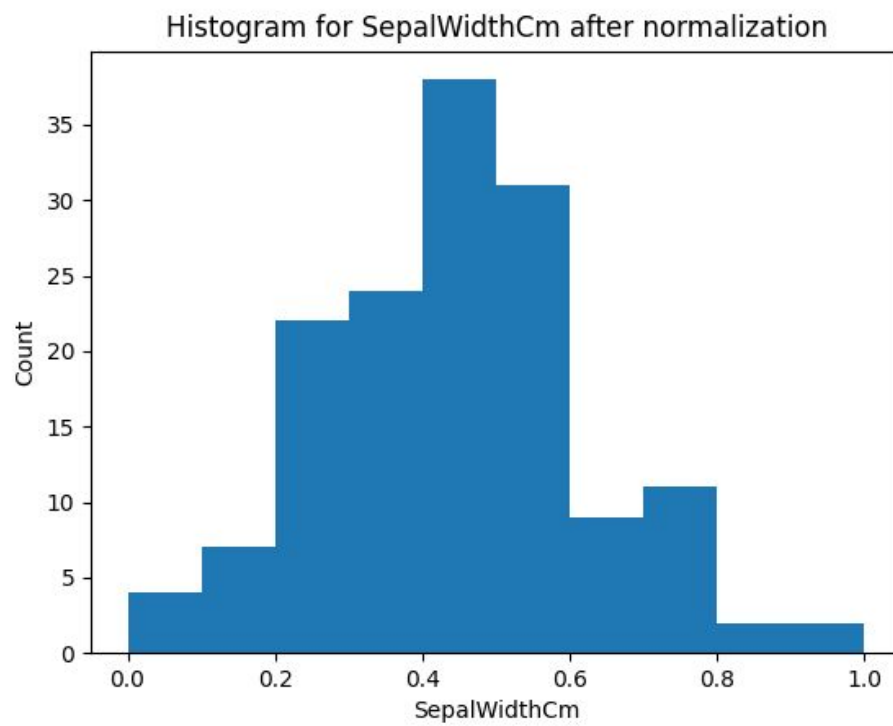
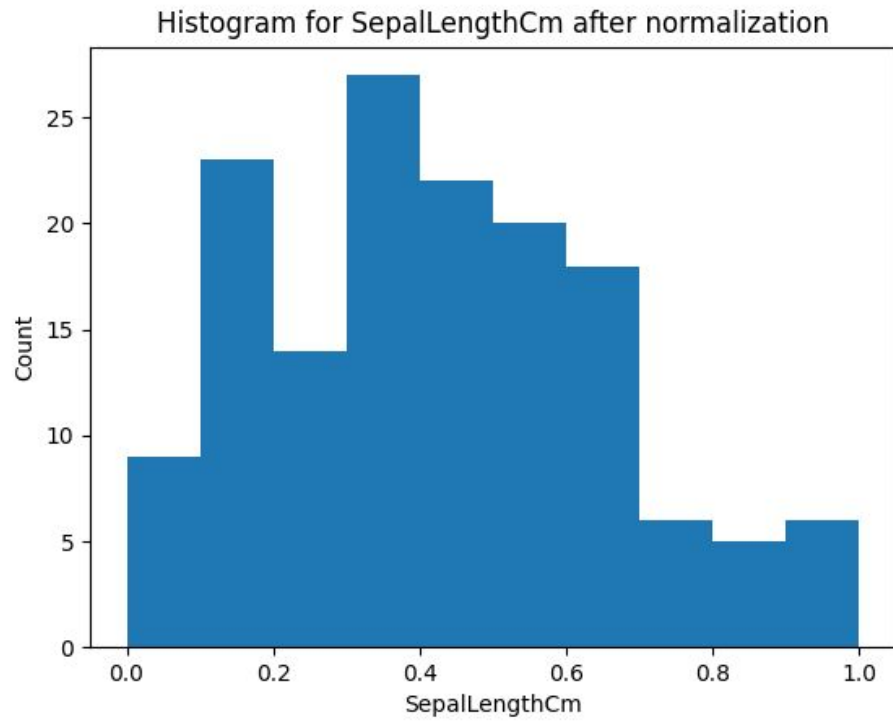
Neural Network Coding Assignment

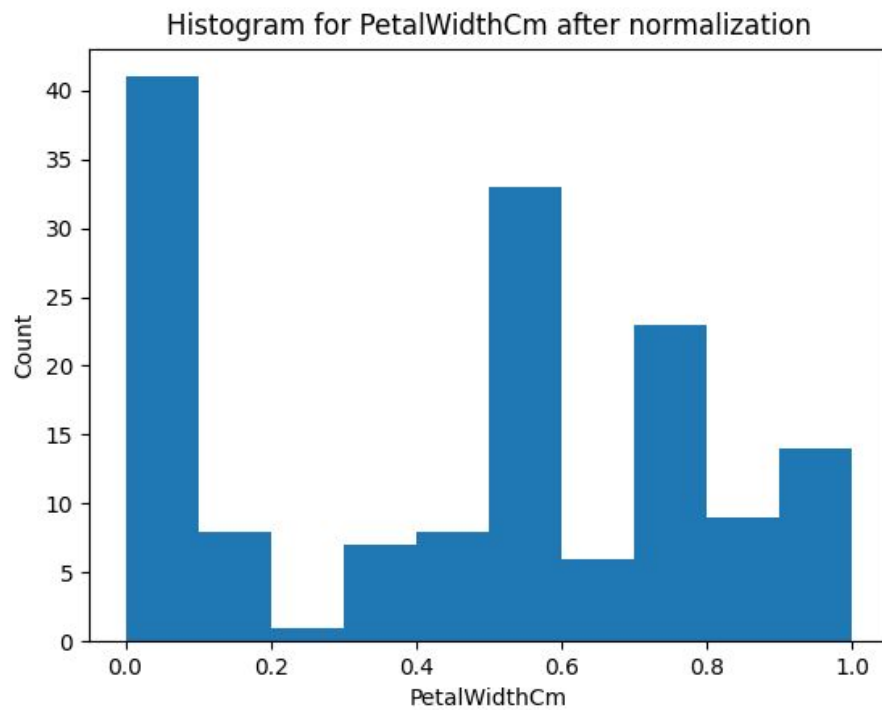
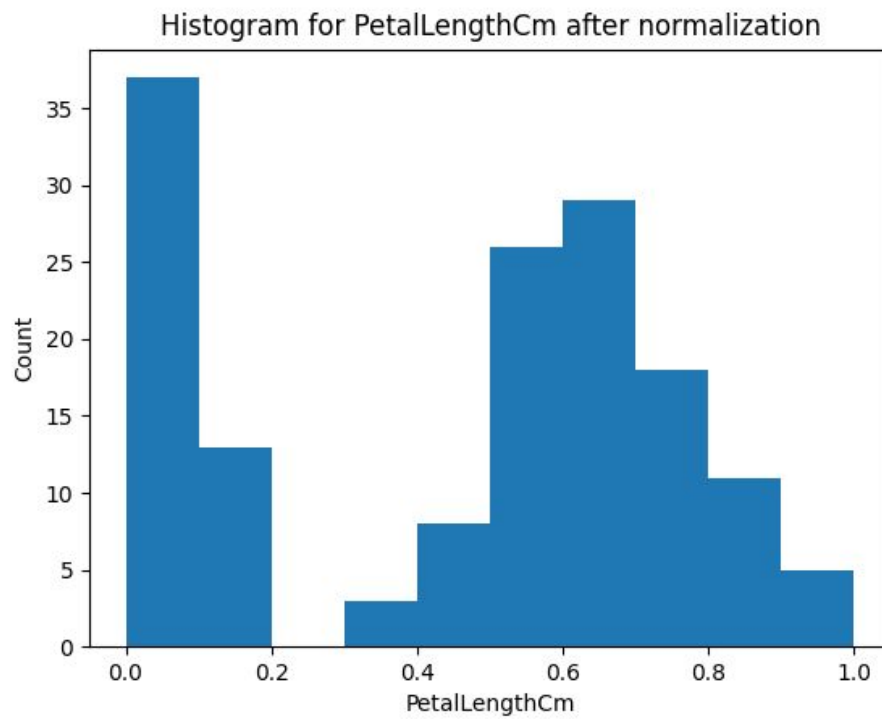
- Visualization of input data before normalization:



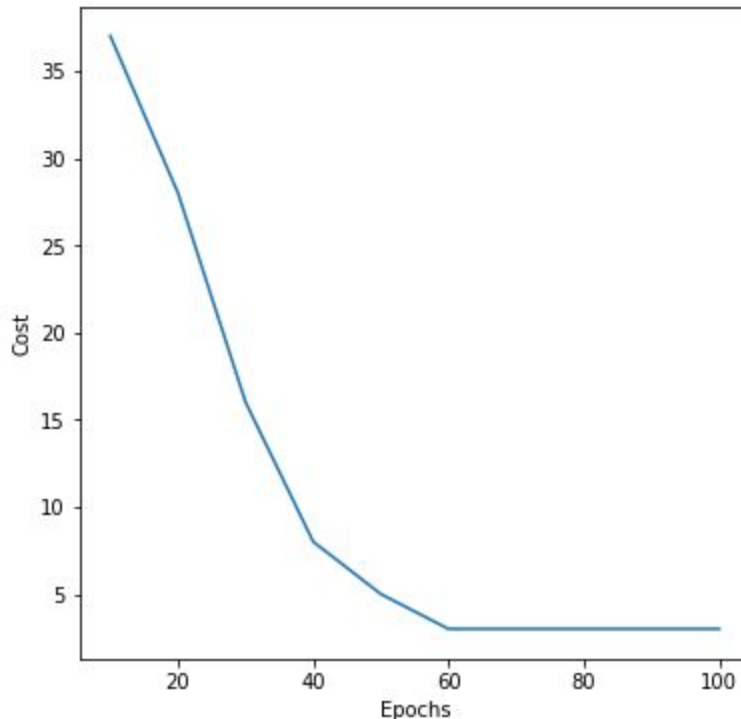


- Visualization of input data after normalization





- Cost vs Epochs Plot for the training data:



- Accuracy for training and test data was recorded at every 10 epochs upto 100 epochs. (80-20 split)

```
Epoch 10
Training Accuracy:0.6574074074074074
Testing Accuracy: 0.7
Cost:37.0
Epoch 20
Training Accuracy:0.7407407407407407
Testing Accuracy: 0.7666666666666667
Cost:28.0
Epoch 30
Training Accuracy:0.8518518518518519
Testing Accuracy: 0.8333333333333334
Cost:16.0
Epoch 40
Training Accuracy:0.9259259259259259
Testing Accuracy: 0.8666666666666667
Cost:8.0
Epoch 50
Training Accuracy:0.9537037037037037
Testing Accuracy: 0.9
Cost:5.0
```

```

Epoch 60
Training Accuracy:0.9722222222222222
Testing Accuracy: 0.9
Cost:3.0
Epoch 70
Training Accuracy:0.9722222222222222
Testing Accuracy: 0.9
Cost:3.0
Epoch 80
Training Accuracy:0.9722222222222222
Testing Accuracy: 0.9
Cost:3.0
Epoch 90
Training Accuracy:0.9722222222222222
Testing Accuracy: 0.9
Cost:3.0
Epoch 100
Training Accuracy:0.9722222222222222
Testing Accuracy: 0.9
Cost:3.0

```

- Output values and the species associated for the test data:

```

Predicted output value for the input [4.6, 3.5, 1.8, 0.2] : [0.95004661 0.07185238 0.00133686] Predicted Species: Iris-setosa
Predicted output value for the input [5.9, 2.5, 1.6, 1.6] : [0.14106705 0.86768238 0.03003931] Predicted Species: Iris-versicolor
Predicted output value for the input [5, 4.2, 3.7, 0.3] : [0.90539423 0.14045364 0.00203282] Predicted Species: Iris-setosa
Predicted output value for the input [5.7, 4, 4.2, 1.2] : [0.24202381 0.80601284 0.01937938] Predicted Species: Iris-versicolor

```