

Questions for Part 3

Question 1: In your scikit-learn implementation, set hidden layer sizes to the following values (5,5), (10,10), (30,10) and keep other parameters the same or as default. Report their training and testing accuracy using the same train-test split in the test Part1().

Using a custom tester function, following are the results found for hidden-layer-sizes (5, 5), (10, 10) and (30, 10).

```
===== Hidden Size (5, 5) =====
=== Train Results ===
Confusion Matrix
[[42  0]
 [38  0]]
Accuracy: 52.5
=== Test Results ===
Confusion Matrix
[[ 8  0]
 [12  0]]
Accuracy: 40.0
=====

===== Hidden Size (10, 10) =====
=== Train Results ===
Confusion Matrix
[[40  2]
 [ 1 37]]
Accuracy: 96.25
=== Test Results ===
Confusion Matrix
[[ 7  1]
 [ 0 12]]
Accuracy: 95.0
=====

===== Hidden Size (30, 10) =====
=== Train Results ===
Confusion Matrix
[[39  3]
 [ 0 38]]
Accuracy: 96.25
=== Test Results ===
Confusion Matrix
[[ 7  1]
 [ 1 11]]
Accuracy: 90.0
=====
```