Project 5 Results Summary:

Epochs : 5

Number of hidden nodes : 100	Best Success ratio : 0.70
Number of hidden nodes : 200	Best Success ratio : 0.73
Number of hidden nodes : 300	Best Success ratio : 0.75
Number of hidden nodes : 400	Best Success ratio : 0.77
Number of hidden nodes : 500	Best Success ratio : 0.74

Epochs : 10

Number of hidden nodes : 100	Best Success ratio : 0.72
Number of hidden nodes : 200	Best Success ratio : 0.77
Number of hidden nodes : 300	Best Success ratio : 0.77
Number of hidden nodes : 400	Best Success ratio : 0.77
Number of hidden nodes : 500	Best Success ratio : 0.79

Epochs : 20

Number of hidden nodes : 100	Best Success ratio : 0.79
Number of hidden nodes : 200	Best Success ratio : 0.78
Number of hidden nodes : 300	Best Success ratio : 0.82
Number of hidden nodes : 400	Best Success ratio : 0.82
Number of hidden nodes : 500	Best Success ratio : 0.83

Epochs : 30

Number of hidden nodes : 100	Best Success ratio : 0.77
Number of hidden nodes : 200	Best Success ratio : 0.80
Number of hidden nodes : 300	Best Success ratio : 0.81
Number of hidden nodes : 400	Best Success ratio : 0.85
Number of hidden nodes : 500	Best Success ratio : 0.83

Epochs : 50

Number of hidden nodes : 100	Best Success ratio : 0.78
Number of hidden nodes : 200	Best Success ratio : 0.82
Number of hidden nodes : 300	Best Success ratio : 0.80
Number of hidden nodes : 400	Best Success ratio : 0.80
Number of hidden nodes : 500	Best Success ratio : 0.82

# of epochs = 5

```
The Results for 5 epochs are :
Number of hidden nodes : 100   Best success ratio :  0.7072
Number of hidden nodes : 200   Best success ratio :  0.7316
Number of hidden nodes : 300   Best success ratio :  0.7468
Number of hidden nodes : 400   Best success ratio :  0.768
Number of hidden nodes : 500   Best success ratio :  0.7364
```

Test:

```
Enter the file name containing test image (0 to EXIT): test1
Opening and extracting images from: test1.csv
The image was classified correctly. It was 1
Enter the file name containing test image (0 to EXIT): test0
Opening and extracting images from: test0.csv
The image was classified correctly. It was 0
Enter the file name containing test image (0 to EXIT): test8
Opening and extracting images from: test8.csv
The image was NOT classified correctly. It was 8 but the result was 9
Enter the file name containing test image (0 to EXIT): test3
Opening and extracting images from: test3.csv
The image was NOT classified correctly. It was 3 but the result was 5
Enter the file name containing test image (0 to EXIT): test7
Opening and extracting images from: test7.csv
The image was classified correctly. It was 7
```

# of epochs = 10

```
The Results for 10 epochs are :
Number of hidden nodes : 100   Best success ratio :  0.7208
Number of hidden nodes : 200   Best success ratio :  0.7728
Number of hidden nodes : 300   Best success ratio :  0.772
Number of hidden nodes : 400   Best success ratio :  0.7724
Number of hidden nodes : 500   Best success ratio :  0.7884
```

Test:

```
Enter the file name containing test image (0 to EXIT): test1
Opening and extracting images from: test1.csv
The image was classified correctly. It was 1
Enter the file name containing test image (0 to EXIT): test9
Opening and extracting images from: test9.csv
The image was classified correctly. It was 9
Enter the file name containing test image (0 to EXIT): test4
Opening and extracting images from: test4.csv
The image was NOT classified correctly. It was 4 but the result was 6
Enter the file name containing test image (0 to EXIT): test0
Opening and extracting images from: test0.csv
The image was classified correctly. It was 0
Enter the file name containing test image (0 to EXIT): test2
Opening and extracting images from: test2.csv
The image was classified correctly. It was 2
Enter the file name containing test image (0 to EXIT): test7
Opening and extracting images from: test7.csv
The image was classified correctly. It was 7
Enter the file name containing test image (0 to EXIT): test3
Opening and extracting images from: test3.csv
The image was classified correctly. It was 3
```

# of epochs = 20

```
The Results for 20 epochs are :
Number of hidden nodes : 100   Best success ratio :  0.7876
Number of hidden nodes : 200   Best success ratio :  0.7844
Number of hidden nodes : 300   Best success ratio :  0.8232
Number of hidden nodes : 400   Best success ratio :  0.818
Number of hidden nodes : 500   Best success ratio :  0.8332
```

Test:

```
Enter the file name containing test image (0 to EXIT): test0
Opening and extracting images from: test0.csv
The image was classified correctly. It was 0
Enter the file name containing test image (0 to EXIT): test7
Opening and extracting images from: test7.csv
The image was classified correctly. It was 7
Enter the file name containing test image (0 to EXIT): test2
Opening and extracting images from: test2.csv
The image was NOT classified correctly. It was 2 but the result was 3
Enter the file name containing test image (0 to EXIT): test9
Opening and extracting images from: test9.csv
The image was classified correctly. It was 9
Enter the file name containing test image (0 to EXIT): test1
Opening and extracting images from: test1.csv
The image was classified correctly. It was 1
Enter the file name containing test image (0 to EXIT): test3
Opening and extracting images from: test3.csv
The image was classified correctly. It was 3
```

# of epochs = 30

```
The Results for 30 epochs are :
Number of hidden nodes : 100   Best success ratio :  0.7696
Number of hidden nodes : 200   Best success ratio :  0.8008
Number of hidden nodes : 300   Best success ratio :  0.8064
Number of hidden nodes : 400   Best success ratio :  0.848
Number of hidden nodes : 500   Best success ratio :  0.8244
```

Test:

```
Enter the file name containing test image (0 to EXIT): test3
Opening and extracting images from: test3.csv
The image was classified correctly. It was 3
Enter the file name containing test image (0 to EXIT): test1
Opening and extracting images from: test1.csv
The image was classified correctly. It was 1
Enter the file name containing test image (0 to EXIT): test0
Opening and extracting images from: test0.csv
The image was NOT classified correctly. It was 0 but the result was 9
Enter the file name containing test image (0 to EXIT): test5
Opening and extracting images from: test5.csv
The image was classified correctly. It was 5
Enter the file name containing test image (0 to EXIT): test6
Opening and extracting images from: test6.csv
The image was NOT classified correctly. It was 6 but the result was 5
```

# of epochs = 50

```
The Results for 50 epochs are :
Number of hidden nodes : 100   Best success ratio :  0.7848
Number of hidden nodes : 200   Best success ratio :  0.8228
Number of hidden nodes : 300   Best success ratio :  0.8036
Number of hidden nodes : 400   Best success ratio :  0.8016
Number of hidden nodes : 500   Best success ratio :  0.8224
```

Test:

```
Enter the file name containing test image (0 to EXIT): test8
Opening and extracting images from: test8.csv
The image was NOT classified correctly. It was 8 but the result was 9
Enter the file name containing test image (0 to EXIT): test3
Opening and extracting images from: test3.csv
The image was classified correctly. It was 3
Enter the file name containing test image (0 to EXIT): test5
Opening and extracting images from: test5.csv
The image was classified correctly. It was 5
Enter the file name containing test image (0 to EXIT): test7
Opening and extracting images from: test7.csv
The image was classified correctly. It was 7
```