

MLP-BP

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2 Layer (Input-Output):

```
Number of correct samples: 8695 / 10000  
Accuracy: 86.95
```

With two-layer program works very fast but accuracy is not satisfactory.

3 Layer (Input-HiddenLayer-Output):

```
Number of correct samples: 9360 / 10000  
Accuracy: 93.60000000000001
```

With three-layer Accuracy is good.

4 Layer (Input-HiddenLayer-HiddenLayer-Output):

```
Number of correct samples: 9470 / 10000  
Accuracy: 94.69999999999999
```

Accuracy is even better.

5 Layer (Input-HiddenLayer-HiddenLayer-HiddenLayer-Output):

I tried to run it but training 4000 of it took about 75 minutes.

Info about program:

To use program file path should be changed on both training_mnist.java and testing_mnist.java also to change amount of layer parameter myNet should be changed.

```
static int nHidden = 128;  
static int nHidden1 = 128;  
static int nHidden2 = 128;  
static int nOutput = 10;  
  
static MLP myNet = new MLP(nInput, nOutput);
```

(2 layer concept)

```
static int nHidden = 128;  
static int nHidden1 = 128;  
static int nHidden2 = 128;  
static int nOutput = 10;  
  
static MLP myNet = new MLP(nInput, nHidden, nOutput);
```

(3 layer concept)