week_2_solution_1

March 15, 2018

In [1]:
```
import mnist_loader
import numpy as np
import pandas as pd

training_data, validation_data, test_data = mnist_loader.load_data_wrapper()
print("Training data, validation data and test data loaded.")
```

```
Training data, validation data and test data loaded.
```

In [2]:
```
import network2
```

In [15]:
```
network2 = reload(network2)
net2_all_train = network2.Network([784,100, 10], cost=network2.CrossEntropyCost, acti
net2_all_train.xavier_weight_initializer()

evaluation_cost_all_train, evaluation_accuracy_all_train, training_cost_all_train, tra
    training_data=training_data,
    epochs=2,
    mini_batch_size=10,
    eta=0.1,
    evaluation_data=test_data,
    lmbda=5.0,
    monitor_evaluation_cost=True,
    monitor_evaluation_accuracy=True,
    monitor_training_cost=True,
    monitor_training_accuracy=True
)
```

```
Epoch 0 training complete
Cost on training data: 0.5383978835
Accuracy on training data: 46316 / 50000
Cost on evaluation data: 0.664685114017
Accuracy on evaluation data: 9287 / 10000

Epoch 1 training complete
Cost on training data: 0.429344204104
Accuracy on training data: 47240 / 50000
```

```
Cost on evaluation data: 0.615087047803
Accuracy on evaluation data: 9446 / 10000
```