

week_1_solution_14

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]: print("14. Repeat 12 for a deep network with three hidden layers, with 30 neuron in ea
```

14. Repeat 12 for a deep network with three hidden layers, with 30 neuron in each.

```
In [3]: import network2
net2_all_train = network2.Network([784, 30, 30, 30, 10], cost=network2.CrossEntropyCost,
net2_all_train.large_weight_initializer()

epochs = 400

evaluation_cost_all_train, evaluation_accuracy_all_train, training_cost_all_train, tra
    training_data,
    epochs,
    10,
    0.5,
    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: 1.35470700202

Accuracy on training data: 45885 / 50000

Cost on evaluation data: 4.7731181301

Accuracy on evaluation data: 9161 / 10000

Epoch 1 training complete

Cost on training data: 0.977238185234

Accuracy on training data: 46808 / 50000

Cost on evaluation data: 3.3413493973

Accuracy on evaluation data: 9298 / 10000

Epoch 2 training complete

Cost on training data: 0.783991961857

Accuracy on training data: 47070 / 50000

Cost on evaluation data: 2.48929308517

Accuracy on evaluation data: 9393 / 10000

Epoch 3 training complete

Cost on training data: 0.661731907293

Accuracy on training data: 47062 / 50000

Cost on evaluation data: 1.99874702098

Accuracy on evaluation data: 9350 / 10000

Epoch 4 training complete

Cost on training data: 0.539353112243

Accuracy on training data: 47832 / 50000

Cost on evaluation data: 1.66086387002

Accuracy on evaluation data: 9504 / 10000

Epoch 5 training complete

Cost on training data: 0.494589574392

Accuracy on training data: 47997 / 50000

Cost on evaluation data: 1.48986604345

Accuracy on evaluation data: 9510 / 10000

Epoch 6 training complete

Cost on training data: 0.514594425065

Accuracy on training data: 47566 / 50000

Cost on evaluation data: 1.42262887343

Accuracy on evaluation data: 9451 / 10000

Epoch 7 training complete

Cost on training data: 0.502757825841

Accuracy on training data: 47639 / 50000

Cost on evaluation data: 1.37879919567

Accuracy on evaluation data: 9432 / 10000

Epoch 8 training complete

Cost on training data: 0.509498140458

Accuracy on training data: 47454 / 50000

Cost on evaluation data: 1.34174790261

Accuracy on evaluation data: 9425 / 10000

Epoch 9 training complete

Cost on training data: 0.509880935687

Accuracy on training data: 47535 / 50000

Cost on evaluation data: 1.336085973

Accuracy on evaluation data: 9444 / 10000

Epoch 10 training complete

Cost on training data: 0.485878125735

Accuracy on training data: 47575 / 50000

Cost on evaluation data: 1.30019460932

Accuracy on evaluation data: 9469 / 10000

Epoch 11 training complete

Cost on training data: 0.418428624918

Accuracy on training data: 48263 / 50000

Cost on evaluation data: 1.22747325987

Accuracy on evaluation data: 9582 / 10000

Epoch 12 training complete

Cost on training data: 0.46108954249

Accuracy on training data: 47776 / 50000

Cost on evaluation data: 1.272688251

Accuracy on evaluation data: 9499 / 10000

Epoch 13 training complete

Cost on training data: 0.520268989926

Accuracy on training data: 47178 / 50000

Cost on evaluation data: 1.32541995441

Accuracy on evaluation data: 9394 / 10000

Epoch 14 training complete

Cost on training data: 0.454690410336

Accuracy on training data: 47854 / 50000

Cost on evaluation data: 1.29022804664

Accuracy on evaluation data: 9480 / 10000

Epoch 15 training complete

Cost on training data: 0.433326613227

Accuracy on training data: 48081 / 50000

Cost on evaluation data: 1.25568100053

Accuracy on evaluation data: 9516 / 10000

Epoch 16 training complete

Cost on training data: 0.420366502776

Accuracy on training data: 48180 / 50000

Cost on evaluation data: 1.26498467264

Accuracy on evaluation data: 9535 / 10000

Epoch 17 training complete

Cost on training data: 0.427975913774

Accuracy on training data: 48138 / 50000

Cost on evaluation data: 1.25251622444

Accuracy on evaluation data: 9513 / 10000

Epoch 18 training complete

Cost on training data: 0.425913232624

Accuracy on training data: 48122 / 50000

Cost on evaluation data: 1.24069723621

Accuracy on evaluation data: 9549 / 10000

Epoch 19 training complete

Cost on training data: 0.416687290406

Accuracy on training data: 48173 / 50000

Cost on evaluation data: 1.23354999524

Accuracy on evaluation data: 9567 / 10000

Epoch 20 training complete

Cost on training data: 0.403098133317

Accuracy on training data: 48293 / 50000

Cost on evaluation data: 1.21534641463

Accuracy on evaluation data: 9564 / 10000

Epoch 21 training complete

Cost on training data: 0.400788076316

Accuracy on training data: 48361 / 50000

Cost on evaluation data: 1.20740931961

Accuracy on evaluation data: 9588 / 10000

Epoch 22 training complete

Cost on training data: 0.398736901111

Accuracy on training data: 48367 / 50000

Cost on evaluation data: 1.20848188071

Accuracy on evaluation data: 9581 / 10000

Epoch 23 training complete

Cost on training data: 0.432218770818

Accuracy on training data: 48071 / 50000

Cost on evaluation data: 1.23829744837

Accuracy on evaluation data: 9530 / 10000

Epoch 24 training complete

Cost on training data: 0.417935565873

Accuracy on training data: 48126 / 50000

Cost on evaluation data: 1.22713330481

Accuracy on evaluation data: 9557 / 10000

Epoch 25 training complete

Cost on training data: 0.40367604357

Accuracy on training data: 48329 / 50000

Cost on evaluation data: 1.21792038293

Accuracy on evaluation data: 9569 / 10000

Epoch 26 training complete

Cost on training data: 0.399052006505

Accuracy on training data: 48410 / 50000

Cost on evaluation data: 1.20858221073

Accuracy on evaluation data: 9610 / 10000

Epoch 27 training complete

Cost on training data: 0.425039983992

Accuracy on training data: 48114 / 50000

Cost on evaluation data: 1.24270973782

Accuracy on evaluation data: 9543 / 10000

Epoch 28 training complete

Cost on training data: 0.394921622975

Accuracy on training data: 48360 / 50000

Cost on evaluation data: 1.21204820443

Accuracy on evaluation data: 9597 / 10000

Epoch 29 training complete

Cost on training data: 0.443985843788

Accuracy on training data: 47901 / 50000

Cost on evaluation data: 1.26224529265

Accuracy on evaluation data: 9494 / 10000

Epoch 30 training complete

Cost on training data: 0.429103556391

Accuracy on training data: 48091 / 50000

Cost on evaluation data: 1.24611427638

Accuracy on evaluation data: 9546 / 10000

Epoch 31 training complete

Cost on training data: 0.474356989721

Accuracy on training data: 47692 / 50000

Cost on evaluation data: 1.29108028208

Accuracy on evaluation data: 9449 / 10000

Epoch 32 training complete

Cost on training data: 0.429838635335

Accuracy on training data: 48105 / 50000

Cost on evaluation data: 1.23179360625

Accuracy on evaluation data: 9568 / 10000

Epoch 33 training complete

Cost on training data: 0.501476217356

Accuracy on training data: 47401 / 50000

Cost on evaluation data: 1.30515079563

Accuracy on evaluation data: 9429 / 10000

Epoch 34 training complete

Cost on training data: 0.408226997936

Accuracy on training data: 48312 / 50000

Cost on evaluation data: 1.22387767179

Accuracy on evaluation data: 9573 / 10000

Epoch 35 training complete

Cost on training data: 0.422065878789

Accuracy on training data: 48111 / 50000

Cost on evaluation data: 1.26331938108

Accuracy on evaluation data: 9496 / 10000

Epoch 36 training complete

Cost on training data: 0.389761641698

Accuracy on training data: 48405 / 50000

Cost on evaluation data: 1.20793068156

Accuracy on evaluation data: 9595 / 10000

Epoch 37 training complete

Cost on training data: 0.415751899657

Accuracy on training data: 48143 / 50000

Cost on evaluation data: 1.23398251062

Accuracy on evaluation data: 9552 / 10000

Epoch 38 training complete

Cost on training data: 0.411205429258

Accuracy on training data: 48221 / 50000

Cost on evaluation data: 1.21850741223

Accuracy on evaluation data: 9596 / 10000

Epoch 39 training complete

Cost on training data: 0.373949703961

Accuracy on training data: 48542 / 50000

Cost on evaluation data: 1.19849168953

Accuracy on evaluation data: 9599 / 10000

Epoch 40 training complete

Cost on training data: 0.425544167372

Accuracy on training data: 48200 / 50000

Cost on evaluation data: 1.24591080509

Accuracy on evaluation data: 9554 / 10000

Epoch 41 training complete

Cost on training data: 0.401268480078

Accuracy on training data: 48301 / 50000

Cost on evaluation data: 1.22098063281

Accuracy on evaluation data: 9590 / 10000

Epoch 42 training complete

Cost on training data: 0.455963110622

Accuracy on training data: 47777 / 50000

Cost on evaluation data: 1.27397054973

Accuracy on evaluation data: 9475 / 10000

Epoch 43 training complete

Cost on training data: 0.410763700792

Accuracy on training data: 48214 / 50000

Cost on evaluation data: 1.24821349953

Accuracy on evaluation data: 9546 / 10000

Epoch 44 training complete

Cost on training data: 0.420232693614

Accuracy on training data: 48134 / 50000

Cost on evaluation data: 1.2411094894

Accuracy on evaluation data: 9531 / 10000

Epoch 45 training complete

Cost on training data: 0.365515891203

Accuracy on training data: 48634 / 50000

Cost on evaluation data: 1.17712388119

Accuracy on evaluation data: 9645 / 10000

Epoch 46 training complete

Cost on training data: 0.379046655039

Accuracy on training data: 48547 / 50000

Cost on evaluation data: 1.19431897448

Accuracy on evaluation data: 9624 / 10000

Epoch 47 training complete

Cost on training data: 0.437650190253

Accuracy on training data: 47956 / 50000

Cost on evaluation data: 1.2534170177

Accuracy on evaluation data: 9517 / 10000

Epoch 48 training complete

Cost on training data: 0.388575985762

Accuracy on training data: 48425 / 50000

Cost on evaluation data: 1.20418511444

Accuracy on evaluation data: 9590 / 10000

Epoch 49 training complete

Cost on training data: 0.377348793006

Accuracy on training data: 48535 / 50000

Cost on evaluation data: 1.19885427453

Accuracy on evaluation data: 9633 / 10000

Epoch 50 training complete

Cost on training data: 0.458090968283

Accuracy on training data: 47842 / 50000

Cost on evaluation data: 1.267650162

Accuracy on evaluation data: 9499 / 10000

Epoch 51 training complete

Cost on training data: 0.405370023034

Accuracy on training data: 48198 / 50000

Cost on evaluation data: 1.21810983646

Accuracy on evaluation data: 9575 / 10000

Epoch 52 training complete

Cost on training data: 0.389553633911

Accuracy on training data: 48376 / 50000

Cost on evaluation data: 1.21096679935

Accuracy on evaluation data: 9577 / 10000

Epoch 53 training complete

Cost on training data: 0.396213851884

Accuracy on training data: 48332 / 50000

Cost on evaluation data: 1.2241386717

Accuracy on evaluation data: 9572 / 10000

Epoch 54 training complete

Cost on training data: 0.446467217681

Accuracy on training data: 47825 / 50000

Cost on evaluation data: 1.25370160914

Accuracy on evaluation data: 9482 / 10000

Epoch 55 training complete

Cost on training data: 0.405406938911

Accuracy on training data: 48243 / 50000

Cost on evaluation data: 1.21614640689

Accuracy on evaluation data: 9553 / 10000

Epoch 56 training complete

Cost on training data: 0.384098841337

Accuracy on training data: 48471 / 50000

Cost on evaluation data: 1.19331647081

Accuracy on evaluation data: 9616 / 10000

Epoch 57 training complete

Cost on training data: 0.377619606854

Accuracy on training data: 48534 / 50000

Cost on evaluation data: 1.20154576007

Accuracy on evaluation data: 9623 / 10000

Epoch 58 training complete

Cost on training data: 0.42837850132

Accuracy on training data: 48041 / 50000

Cost on evaluation data: 1.25199206652

Accuracy on evaluation data: 9537 / 10000

Epoch 59 training complete

Cost on training data: 0.427389248484

Accuracy on training data: 48120 / 50000

Cost on evaluation data: 1.24182347685

Accuracy on evaluation data: 9526 / 10000

Epoch 60 training complete

Cost on training data: 0.414820581383

Accuracy on training data: 48196 / 50000

Cost on evaluation data: 1.23162226736

Accuracy on evaluation data: 9557 / 10000

Epoch 61 training complete

Cost on training data: 0.414632010524

Accuracy on training data: 48223 / 50000

Cost on evaluation data: 1.23735658242

Accuracy on evaluation data: 9555 / 10000

Epoch 62 training complete

Cost on training data: 0.401260650667

Accuracy on training data: 48324 / 50000

Cost on evaluation data: 1.21772469862

Accuracy on evaluation data: 9598 / 10000

Epoch 63 training complete

Cost on training data: 0.385811771619

Accuracy on training data: 48485 / 50000

Cost on evaluation data: 1.20522560177

Accuracy on evaluation data: 9609 / 10000

Epoch 64 training complete

Cost on training data: 0.39989590362

Accuracy on training data: 48329 / 50000

Cost on evaluation data: 1.20588868072

Accuracy on evaluation data: 9601 / 10000

Epoch 65 training complete

Cost on training data: 0.451905209346

Accuracy on training data: 47817 / 50000

Cost on evaluation data: 1.26121835363

Accuracy on evaluation data: 9470 / 10000

Epoch 66 training complete

Cost on training data: 0.375499956353

Accuracy on training data: 48531 / 50000

Cost on evaluation data: 1.20067260042

Accuracy on evaluation data: 9615 / 10000

Epoch 67 training complete

Cost on training data: 0.394073520716

Accuracy on training data: 48344 / 50000

Cost on evaluation data: 1.22000719099

Accuracy on evaluation data: 9588 / 10000

Epoch 68 training complete

Cost on training data: 0.437078747849

Accuracy on training data: 48027 / 50000

Cost on evaluation data: 1.28027847602

Accuracy on evaluation data: 9474 / 10000

Epoch 69 training complete

Cost on training data: 0.383146690154

Accuracy on training data: 48469 / 50000

Cost on evaluation data: 1.22265352466

Accuracy on evaluation data: 9557 / 10000

Epoch 70 training complete

Cost on training data: 0.381511306793

Accuracy on training data: 48480 / 50000

Cost on evaluation data: 1.19342445752

Accuracy on evaluation data: 9617 / 10000

Epoch 71 training complete

Cost on training data: 0.390511615295

Accuracy on training data: 48381 / 50000

Cost on evaluation data: 1.22611298809

Accuracy on evaluation data: 9575 / 10000

Epoch 72 training complete

Cost on training data: 0.462389442485

Accuracy on training data: 47725 / 50000

Cost on evaluation data: 1.29410019919

Accuracy on evaluation data: 9467 / 10000

Epoch 73 training complete

Cost on training data: 0.394220029647

Accuracy on training data: 48400 / 50000

Cost on evaluation data: 1.21420340057

Accuracy on evaluation data: 9616 / 10000

Epoch 74 training complete

Cost on training data: 0.445857325616

Accuracy on training data: 47882 / 50000

Cost on evaluation data: 1.26321098341

Accuracy on evaluation data: 9501 / 10000

Epoch 75 training complete

Cost on training data: 0.436644809329

Accuracy on training data: 48109 / 50000

Cost on evaluation data: 1.25154815864

Accuracy on evaluation data: 9552 / 10000

Epoch 76 training complete

Cost on training data: 0.410616153951

Accuracy on training data: 48253 / 50000

Cost on evaluation data: 1.25063555875

Accuracy on evaluation data: 9552 / 10000

Epoch 77 training complete

Cost on training data: 0.420597307797

Accuracy on training data: 48195 / 50000

Cost on evaluation data: 1.24779924353

Accuracy on evaluation data: 9545 / 10000

Epoch 78 training complete

Cost on training data: 0.441094608233

Accuracy on training data: 47978 / 50000

Cost on evaluation data: 1.27665234698

Accuracy on evaluation data: 9496 / 10000

Epoch 79 training complete

Cost on training data: 0.408090604836

Accuracy on training data: 48321 / 50000

Cost on evaluation data: 1.23569169652

Accuracy on evaluation data: 9562 / 10000

Epoch 80 training complete

Cost on training data: 0.377407188464

Accuracy on training data: 48584 / 50000

Cost on evaluation data: 1.21134704418

Accuracy on evaluation data: 9601 / 10000

Epoch 81 training complete

Cost on training data: 0.41188864926

Accuracy on training data: 48172 / 50000

Cost on evaluation data: 1.24574549886

Accuracy on evaluation data: 9548 / 10000

Epoch 82 training complete

Cost on training data: 0.393507828387

Accuracy on training data: 48375 / 50000

Cost on evaluation data: 1.21516863158

Accuracy on evaluation data: 9610 / 10000

Epoch 83 training complete

Cost on training data: 0.418544769086

Accuracy on training data: 48237 / 50000

Cost on evaluation data: 1.24972300006

Accuracy on evaluation data: 9554 / 10000

Epoch 84 training complete

Cost on training data: 0.383125770944

Accuracy on training data: 48516 / 50000

Cost on evaluation data: 1.20191287385

Accuracy on evaluation data: 9602 / 10000

Epoch 85 training complete

Cost on training data: 0.432861391856

Accuracy on training data: 48071 / 50000

Cost on evaluation data: 1.24241913866

Accuracy on evaluation data: 9567 / 10000

Epoch 86 training complete

Cost on training data: 0.387002502089

Accuracy on training data: 48438 / 50000

Cost on evaluation data: 1.21606963109

Accuracy on evaluation data: 9583 / 10000

Epoch 87 training complete

Cost on training data: 0.416030308742

Accuracy on training data: 48165 / 50000

Cost on evaluation data: 1.24364178983

Accuracy on evaluation data: 9537 / 10000

Epoch 88 training complete

Cost on training data: 0.388390839081

Accuracy on training data: 48464 / 50000

Cost on evaluation data: 1.21916671324

Accuracy on evaluation data: 9590 / 10000

Epoch 89 training complete

Cost on training data: 0.441292029123

Accuracy on training data: 47965 / 50000

Cost on evaluation data: 1.26037904364

Accuracy on evaluation data: 9519 / 10000

Epoch 90 training complete

Cost on training data: 0.384729756144

Accuracy on training data: 48534 / 50000

Cost on evaluation data: 1.20434919783

Accuracy on evaluation data: 9596 / 10000

Epoch 91 training complete

Cost on training data: 0.383072565622

Accuracy on training data: 48509 / 50000

Cost on evaluation data: 1.20898971324

Accuracy on evaluation data: 9599 / 10000

Epoch 92 training complete

Cost on training data: 0.398129574625

Accuracy on training data: 48387 / 50000

Cost on evaluation data: 1.23185128421

Accuracy on evaluation data: 9596 / 10000

Epoch 93 training complete

Cost on training data: 0.40177671102

Accuracy on training data: 48325 / 50000

Cost on evaluation data: 1.2289538882

Accuracy on evaluation data: 9602 / 10000

Epoch 94 training complete

Cost on training data: 0.40938547317

Accuracy on training data: 48255 / 50000

Cost on evaluation data: 1.22595205586

Accuracy on evaluation data: 9595 / 10000

Epoch 95 training complete

Cost on training data: 0.413239625537

Accuracy on training data: 48226 / 50000

Cost on evaluation data: 1.23531027406

Accuracy on evaluation data: 9559 / 10000

Epoch 96 training complete

Cost on training data: 0.387336894759

Accuracy on training data: 48481 / 50000

Cost on evaluation data: 1.20937950056

Accuracy on evaluation data: 9607 / 10000

Epoch 97 training complete

Cost on training data: 0.428867561422

Accuracy on training data: 48109 / 50000

Cost on evaluation data: 1.25707034565

Accuracy on evaluation data: 9530 / 10000

Epoch 98 training complete

Cost on training data: 0.439317278613

Accuracy on training data: 48016 / 50000

Cost on evaluation data: 1.27938709543

Accuracy on evaluation data: 9497 / 10000

Epoch 99 training complete

Cost on training data: 0.461483231354

Accuracy on training data: 47802 / 50000

Cost on evaluation data: 1.29542248208

Accuracy on evaluation data: 9462 / 10000

Epoch 100 training complete

Cost on training data: 0.373105624577

Accuracy on training data: 48574 / 50000

Cost on evaluation data: 1.20863109362

Accuracy on evaluation data: 9599 / 10000

Epoch 101 training complete

Cost on training data: 0.381303825252

Accuracy on training data: 48523 / 50000

Cost on evaluation data: 1.20801912055

Accuracy on evaluation data: 9618 / 10000

Epoch 102 training complete

Cost on training data: 0.373610789333

Accuracy on training data: 48598 / 50000

Cost on evaluation data: 1.20276754385

Accuracy on evaluation data: 9608 / 10000

Epoch 103 training complete

Cost on training data: 0.358572678411

Accuracy on training data: 48754 / 50000

Cost on evaluation data: 1.19661865811

Accuracy on evaluation data: 9623 / 10000

Epoch 104 training complete

Cost on training data: 0.415122805046

Accuracy on training data: 48148 / 50000

Cost on evaluation data: 1.23642610736

Accuracy on evaluation data: 9559 / 10000

Epoch 105 training complete

Cost on training data: 0.424052518427

Accuracy on training data: 48090 / 50000

Cost on evaluation data: 1.25496671768

Accuracy on evaluation data: 9505 / 10000

Epoch 106 training complete

Cost on training data: 0.412464483072

Accuracy on training data: 48203 / 50000

Cost on evaluation data: 1.23931268304

Accuracy on evaluation data: 9566 / 10000

Epoch 107 training complete

Cost on training data: 0.375877363552

Accuracy on training data: 48544 / 50000

Cost on evaluation data: 1.19788015021

Accuracy on evaluation data: 9622 / 10000

Epoch 108 training complete

Cost on training data: 0.501500414787

Accuracy on training data: 47426 / 50000

Cost on evaluation data: 1.30447485417

Accuracy on evaluation data: 9429 / 10000

Epoch 109 training complete

Cost on training data: 0.432213793749

Accuracy on training data: 48038 / 50000

Cost on evaluation data: 1.25046568168

Accuracy on evaluation data: 9512 / 10000

Epoch 110 training complete

Cost on training data: 0.458321804208

Accuracy on training data: 47797 / 50000

Cost on evaluation data: 1.28784325402

Accuracy on evaluation data: 9464 / 10000

Epoch 111 training complete

Cost on training data: 0.491671347105

Accuracy on training data: 47488 / 50000

Cost on evaluation data: 1.31683671945

Accuracy on evaluation data: 9407 / 10000

Epoch 112 training complete

Cost on training data: 0.446227248768

Accuracy on training data: 47945 / 50000

Cost on evaluation data: 1.27120591745

Accuracy on evaluation data: 9509 / 10000

Epoch 113 training complete

Cost on training data: 0.373118020653

Accuracy on training data: 48549 / 50000

Cost on evaluation data: 1.19532791849

Accuracy on evaluation data: 9616 / 10000

Epoch 114 training complete

Cost on training data: 0.387789158778

Accuracy on training data: 48417 / 50000

Cost on evaluation data: 1.20957283897

Accuracy on evaluation data: 9589 / 10000

Epoch 115 training complete

Cost on training data: 0.395123253851

Accuracy on training data: 48355 / 50000

Cost on evaluation data: 1.21636781588

Accuracy on evaluation data: 9597 / 10000

Epoch 116 training complete

Cost on training data: 0.452018256395

Accuracy on training data: 47871 / 50000

Cost on evaluation data: 1.26432993436

Accuracy on evaluation data: 9478 / 10000

Epoch 117 training complete

Cost on training data: 0.431449987297

Accuracy on training data: 48041 / 50000

Cost on evaluation data: 1.24517504014

Accuracy on evaluation data: 9528 / 10000

Epoch 118 training complete

Cost on training data: 0.360356767751

Accuracy on training data: 48714 / 50000

Cost on evaluation data: 1.18120898999

Accuracy on evaluation data: 9654 / 10000

Epoch 119 training complete

Cost on training data: 0.415244875294

Accuracy on training data: 48186 / 50000

Cost on evaluation data: 1.23762215085

Accuracy on evaluation data: 9559 / 10000

Epoch 120 training complete

Cost on training data: 0.486217311817

Accuracy on training data: 47524 / 50000

Cost on evaluation data: 1.28493118442

Accuracy on evaluation data: 9481 / 10000

Epoch 121 training complete

Cost on training data: 0.407914717242

Accuracy on training data: 48247 / 50000

Cost on evaluation data: 1.22950613691

Accuracy on evaluation data: 9567 / 10000

Epoch 122 training complete

Cost on training data: 0.393407041436

Accuracy on training data: 48392 / 50000

Cost on evaluation data: 1.20736794176

Accuracy on evaluation data: 9607 / 10000

Epoch 123 training complete

Cost on training data: 0.495919803173

Accuracy on training data: 47412 / 50000

Cost on evaluation data: 1.31552758598

Accuracy on evaluation data: 9402 / 10000

Epoch 124 training complete

Cost on training data: 0.372455134838

Accuracy on training data: 48617 / 50000

Cost on evaluation data: 1.19522471928

Accuracy on evaluation data: 9620 / 10000

Epoch 125 training complete

Cost on training data: 0.417381863667

Accuracy on training data: 48175 / 50000

Cost on evaluation data: 1.24506945007

Accuracy on evaluation data: 9527 / 10000

Epoch 126 training complete

Cost on training data: 0.408134508137

Accuracy on training data: 48304 / 50000

Cost on evaluation data: 1.24344808396

Accuracy on evaluation data: 9578 / 10000

Epoch 127 training complete

Cost on training data: 0.401558112235

Accuracy on training data: 48263 / 50000

Cost on evaluation data: 1.21689384712

Accuracy on evaluation data: 9574 / 10000

Epoch 128 training complete

Cost on training data: 0.395899510545

Accuracy on training data: 48312 / 50000

Cost on evaluation data: 1.21231268596

Accuracy on evaluation data: 9586 / 10000

Epoch 129 training complete

Cost on training data: 0.377831753055

Accuracy on training data: 48496 / 50000

Cost on evaluation data: 1.19291098069

Accuracy on evaluation data: 9635 / 10000

Epoch 130 training complete

Cost on training data: 0.375457934434

Accuracy on training data: 48536 / 50000

Cost on evaluation data: 1.20784480777

Accuracy on evaluation data: 9582 / 10000

Epoch 131 training complete

Cost on training data: 0.360750841473

Accuracy on training data: 48704 / 50000

Cost on evaluation data: 1.1935532229

Accuracy on evaluation data: 9639 / 10000

Epoch 132 training complete

Cost on training data: 0.388290949054

Accuracy on training data: 48442 / 50000

Cost on evaluation data: 1.21434092874

Accuracy on evaluation data: 9586 / 10000

Epoch 133 training complete

Cost on training data: 0.442777765231

Accuracy on training data: 48009 / 50000

Cost on evaluation data: 1.27765774221

Accuracy on evaluation data: 9494 / 10000

Epoch 134 training complete

Cost on training data: 0.3564806212

Accuracy on training data: 48719 / 50000

Cost on evaluation data: 1.17838556204

Accuracy on evaluation data: 9640 / 10000

Epoch 135 training complete

Cost on training data: 0.393726925591

Accuracy on training data: 48390 / 50000

Cost on evaluation data: 1.22421698199

Accuracy on evaluation data: 9568 / 10000

Epoch 136 training complete

Cost on training data: 0.374281628468

Accuracy on training data: 48555 / 50000

Cost on evaluation data: 1.2003916353

Accuracy on evaluation data: 9610 / 10000

Epoch 137 training complete

Cost on training data: 0.384006973704

Accuracy on training data: 48420 / 50000

Cost on evaluation data: 1.21140222778

Accuracy on evaluation data: 9583 / 10000

Epoch 138 training complete

Cost on training data: 0.416788153551

Accuracy on training data: 48182 / 50000

Cost on evaluation data: 1.23523555504

Accuracy on evaluation data: 9536 / 10000

Epoch 139 training complete

Cost on training data: 0.401396845641

Accuracy on training data: 48297 / 50000

Cost on evaluation data: 1.20628199764

Accuracy on evaluation data: 9588 / 10000

Epoch 140 training complete

Cost on training data: 0.436382400125

Accuracy on training data: 47993 / 50000

Cost on evaluation data: 1.25826656739

Accuracy on evaluation data: 9507 / 10000

Epoch 141 training complete

Cost on training data: 0.435016515698

Accuracy on training data: 48000 / 50000

Cost on evaluation data: 1.26213364529

Accuracy on evaluation data: 9482 / 10000

Epoch 142 training complete

Cost on training data: 0.375584146193

Accuracy on training data: 48519 / 50000

Cost on evaluation data: 1.19161705173

Accuracy on evaluation data: 9636 / 10000

Epoch 143 training complete

Cost on training data: 0.379863385253

Accuracy on training data: 48492 / 50000

Cost on evaluation data: 1.20262734483

Accuracy on evaluation data: 9603 / 10000

Epoch 144 training complete

Cost on training data: 0.404693765821

Accuracy on training data: 48292 / 50000

Cost on evaluation data: 1.22770510012

Accuracy on evaluation data: 9584 / 10000

Epoch 145 training complete

Cost on training data: 0.395722132083

Accuracy on training data: 48372 / 50000

Cost on evaluation data: 1.20583773457

Accuracy on evaluation data: 9604 / 10000

Epoch 146 training complete

Cost on training data: 0.384708461366

Accuracy on training data: 48424 / 50000

Cost on evaluation data: 1.20113622935

Accuracy on evaluation data: 9612 / 10000

Epoch 147 training complete

Cost on training data: 0.367489886151

Accuracy on training data: 48628 / 50000

Cost on evaluation data: 1.1828956584

Accuracy on evaluation data: 9627 / 10000

Epoch 148 training complete

Cost on training data: 0.416319612511

Accuracy on training data: 48202 / 50000

Cost on evaluation data: 1.24624280206

Accuracy on evaluation data: 9532 / 10000

Epoch 149 training complete

Cost on training data: 0.384431549316

Accuracy on training data: 48434 / 50000

Cost on evaluation data: 1.19327034649

Accuracy on evaluation data: 9617 / 10000

Epoch 150 training complete

Cost on training data: 0.40090405378

Accuracy on training data: 48334 / 50000

Cost on evaluation data: 1.21984532142

Accuracy on evaluation data: 9584 / 10000

Epoch 151 training complete

Cost on training data: 0.425996913416

Accuracy on training data: 48082 / 50000

Cost on evaluation data: 1.25355139729

Accuracy on evaluation data: 9526 / 10000

Epoch 152 training complete

Cost on training data: 0.36340390721

Accuracy on training data: 48611 / 50000

Cost on evaluation data: 1.19378413352

Accuracy on evaluation data: 9604 / 10000

Epoch 153 training complete

Cost on training data: 0.388370260246

Accuracy on training data: 48445 / 50000

Cost on evaluation data: 1.20617172381

Accuracy on evaluation data: 9592 / 10000

Epoch 154 training complete

Cost on training data: 0.422043323468

Accuracy on training data: 48192 / 50000

Cost on evaluation data: 1.22459831324

Accuracy on evaluation data: 9577 / 10000

Epoch 155 training complete

Cost on training data: 0.368277315683

Accuracy on training data: 48598 / 50000

Cost on evaluation data: 1.19295910397

Accuracy on evaluation data: 9630 / 10000

Epoch 156 training complete

Cost on training data: 0.423375873632

Accuracy on training data: 48093 / 50000

Cost on evaluation data: 1.25751294159

Accuracy on evaluation data: 9495 / 10000

Epoch 157 training complete

Cost on training data: 0.415671841253

Accuracy on training data: 48178 / 50000

Cost on evaluation data: 1.21870262216

Accuracy on evaluation data: 9594 / 10000

Epoch 158 training complete

Cost on training data: 0.373199248514

Accuracy on training data: 48547 / 50000

Cost on evaluation data: 1.1998090676

Accuracy on evaluation data: 9608 / 10000

Epoch 159 training complete

Cost on training data: 0.39418899394

Accuracy on training data: 48357 / 50000

Cost on evaluation data: 1.21126134841

Accuracy on evaluation data: 9604 / 10000

Epoch 160 training complete

Cost on training data: 0.395488784827

Accuracy on training data: 48416 / 50000

Cost on evaluation data: 1.20044117743

Accuracy on evaluation data: 9614 / 10000

Epoch 161 training complete

Cost on training data: 0.409875119677

Accuracy on training data: 48253 / 50000

Cost on evaluation data: 1.23595009829

Accuracy on evaluation data: 9533 / 10000

Epoch 162 training complete

Cost on training data: 0.369194270963

Accuracy on training data: 48625 / 50000

Cost on evaluation data: 1.19620478936

Accuracy on evaluation data: 9637 / 10000

Epoch 163 training complete

Cost on training data: 0.386009032246

Accuracy on training data: 48449 / 50000

Cost on evaluation data: 1.2014320616

Accuracy on evaluation data: 9611 / 10000

Epoch 164 training complete

Cost on training data: 0.374188318522

Accuracy on training data: 48553 / 50000

Cost on evaluation data: 1.19893150111

Accuracy on evaluation data: 9586 / 10000

Epoch 165 training complete

Cost on training data: 0.48592862887

Accuracy on training data: 47434 / 50000

Cost on evaluation data: 1.30237370044

Accuracy on evaluation data: 9467 / 10000

Epoch 166 training complete

Cost on training data: 0.366935978392

Accuracy on training data: 48616 / 50000

Cost on evaluation data: 1.18938447187

Accuracy on evaluation data: 9610 / 10000

Epoch 167 training complete

Cost on training data: 0.398357144473

Accuracy on training data: 48333 / 50000

Cost on evaluation data: 1.21036311335

Accuracy on evaluation data: 9600 / 10000

Epoch 168 training complete

Cost on training data: 0.354580827091

Accuracy on training data: 48735 / 50000

Cost on evaluation data: 1.16872706257

Accuracy on evaluation data: 9657 / 10000

Epoch 169 training complete

Cost on training data: 0.429592367473

Accuracy on training data: 47978 / 50000

Cost on evaluation data: 1.23470949305

Accuracy on evaluation data: 9531 / 10000

Epoch 170 training complete

Cost on training data: 0.381170024598

Accuracy on training data: 48468 / 50000

Cost on evaluation data: 1.19345387842

Accuracy on evaluation data: 9605 / 10000

Epoch 171 training complete

Cost on training data: 0.364384652287

Accuracy on training data: 48642 / 50000

Cost on evaluation data: 1.17606849968

Accuracy on evaluation data: 9621 / 10000

Epoch 172 training complete

Cost on training data: 0.393264863118

Accuracy on training data: 48368 / 50000

Cost on evaluation data: 1.19987544924

Accuracy on evaluation data: 9611 / 10000

Epoch 173 training complete

Cost on training data: 0.379869617067

Accuracy on training data: 48524 / 50000

Cost on evaluation data: 1.19073136268

Accuracy on evaluation data: 9614 / 10000

Epoch 174 training complete

Cost on training data: 0.459944820353

Accuracy on training data: 47773 / 50000

Cost on evaluation data: 1.29030655669

Accuracy on evaluation data: 9457 / 10000

Epoch 175 training complete

Cost on training data: 0.369920216914

Accuracy on training data: 48574 / 50000

Cost on evaluation data: 1.18655091666

Accuracy on evaluation data: 9632 / 10000

Epoch 176 training complete

Cost on training data: 0.372843259409

Accuracy on training data: 48535 / 50000

Cost on evaluation data: 1.18540903535

Accuracy on evaluation data: 9627 / 10000

Epoch 177 training complete

Cost on training data: 0.362294546555

Accuracy on training data: 48639 / 50000

Cost on evaluation data: 1.16132724311

Accuracy on evaluation data: 9665 / 10000

Epoch 178 training complete

Cost on training data: 0.448657007934

Accuracy on training data: 47935 / 50000

Cost on evaluation data: 1.25974533999

Accuracy on evaluation data: 9500 / 10000

Epoch 179 training complete

Cost on training data: 0.392703033328

Accuracy on training data: 48386 / 50000

Cost on evaluation data: 1.21781499525

Accuracy on evaluation data: 9572 / 10000

Epoch 180 training complete

Cost on training data: 0.447078333652

Accuracy on training data: 47928 / 50000

Cost on evaluation data: 1.25633931654

Accuracy on evaluation data: 9512 / 10000

Epoch 181 training complete

Cost on training data: 0.441046903197

Accuracy on training data: 47998 / 50000

Cost on evaluation data: 1.24978109309

Accuracy on evaluation data: 9521 / 10000

Epoch 182 training complete

Cost on training data: 0.382492456238

Accuracy on training data: 48497 / 50000

Cost on evaluation data: 1.198081316

Accuracy on evaluation data: 9593 / 10000

Epoch 183 training complete

Cost on training data: 0.405210855171

Accuracy on training data: 48307 / 50000

Cost on evaluation data: 1.22107769551

Accuracy on evaluation data: 9538 / 10000

Epoch 184 training complete

Cost on training data: 0.410562938437

Accuracy on training data: 48188 / 50000

Cost on evaluation data: 1.22824907593

Accuracy on evaluation data: 9557 / 10000

Epoch 185 training complete

Cost on training data: 0.374465990859

Accuracy on training data: 48593 / 50000

Cost on evaluation data: 1.19041862397

Accuracy on evaluation data: 9624 / 10000

Epoch 186 training complete

Cost on training data: 0.436510581392

Accuracy on training data: 48058 / 50000

Cost on evaluation data: 1.24718187267

Accuracy on evaluation data: 9540 / 10000

Epoch 187 training complete

Cost on training data: 0.378476900024

Accuracy on training data: 48513 / 50000

Cost on evaluation data: 1.17901642253

Accuracy on evaluation data: 9619 / 10000

Epoch 188 training complete

Cost on training data: 0.389870635067

Accuracy on training data: 48553 / 50000

Cost on evaluation data: 1.21404770395

Accuracy on evaluation data: 9602 / 10000

Epoch 189 training complete

Cost on training data: 0.368064747068

Accuracy on training data: 48634 / 50000

Cost on evaluation data: 1.19737370969

Accuracy on evaluation data: 9600 / 10000

Epoch 190 training complete

Cost on training data: 0.376478088198

Accuracy on training data: 48529 / 50000

Cost on evaluation data: 1.19771969614

Accuracy on evaluation data: 9621 / 10000

Epoch 191 training complete

Cost on training data: 0.41313102125

Accuracy on training data: 48191 / 50000

Cost on evaluation data: 1.22268759687

Accuracy on evaluation data: 9547 / 10000

Epoch 192 training complete

Cost on training data: 0.559793311439

Accuracy on training data: 46843 / 50000

Cost on evaluation data: 1.39338200339

Accuracy on evaluation data: 9281 / 10000

Epoch 193 training complete

Cost on training data: 0.400846534439

Accuracy on training data: 48312 / 50000

Cost on evaluation data: 1.22682198125

Accuracy on evaluation data: 9568 / 10000

Epoch 194 training complete

Cost on training data: 0.406103238965

Accuracy on training data: 48270 / 50000

Cost on evaluation data: 1.222751917

Accuracy on evaluation data: 9574 / 10000

Epoch 195 training complete

Cost on training data: 0.439103682042

Accuracy on training data: 47942 / 50000

Cost on evaluation data: 1.26378157611

Accuracy on evaluation data: 9505 / 10000

Epoch 196 training complete

Cost on training data: 0.411146043677

Accuracy on training data: 48187 / 50000

Cost on evaluation data: 1.23518178007

Accuracy on evaluation data: 9549 / 10000

Epoch 197 training complete

Cost on training data: 0.354873782169

Accuracy on training data: 48724 / 50000

Cost on evaluation data: 1.17996577661

Accuracy on evaluation data: 9637 / 10000

Epoch 198 training complete

Cost on training data: 0.394172992572

Accuracy on training data: 48369 / 50000

Cost on evaluation data: 1.21652231038

Accuracy on evaluation data: 9587 / 10000

Epoch 199 training complete

Cost on training data: 0.380471710655

Accuracy on training data: 48488 / 50000

Cost on evaluation data: 1.20915259984

Accuracy on evaluation data: 9592 / 10000

Epoch 200 training complete

Cost on training data: 0.432017107299

Accuracy on training data: 48025 / 50000

Cost on evaluation data: 1.25069233528

Accuracy on evaluation data: 9518 / 10000

Epoch 201 training complete

Cost on training data: 0.394109230879

Accuracy on training data: 48367 / 50000

Cost on evaluation data: 1.20826003831

Accuracy on evaluation data: 9591 / 10000

Epoch 202 training complete

Cost on training data: 0.38751420584

Accuracy on training data: 48407 / 50000

Cost on evaluation data: 1.20471479057

Accuracy on evaluation data: 9599 / 10000

Epoch 203 training complete

Cost on training data: 0.372351429779

Accuracy on training data: 48597 / 50000

Cost on evaluation data: 1.19026578842

Accuracy on evaluation data: 9629 / 10000

Epoch 204 training complete

Cost on training data: 0.471827537456

Accuracy on training data: 47656 / 50000

Cost on evaluation data: 1.28242943261

Accuracy on evaluation data: 9483 / 10000

Epoch 205 training complete

Cost on training data: 0.377390193817

Accuracy on training data: 48533 / 50000

Cost on evaluation data: 1.19356290391

Accuracy on evaluation data: 9633 / 10000

Epoch 206 training complete

Cost on training data: 0.403704757018

Accuracy on training data: 48241 / 50000

Cost on evaluation data: 1.22438802235

Accuracy on evaluation data: 9560 / 10000

Epoch 207 training complete

Cost on training data: 0.371183983498

Accuracy on training data: 48588 / 50000

Cost on evaluation data: 1.18420385059

Accuracy on evaluation data: 9635 / 10000

Epoch 208 training complete

Cost on training data: 0.375858043929

Accuracy on training data: 48534 / 50000

Cost on evaluation data: 1.20149228654

Accuracy on evaluation data: 9605 / 10000

Epoch 209 training complete

Cost on training data: 0.436846460598

Accuracy on training data: 47989 / 50000

Cost on evaluation data: 1.25351676116

Accuracy on evaluation data: 9539 / 10000

Epoch 210 training complete

Cost on training data: 0.370115310026

Accuracy on training data: 48656 / 50000

Cost on evaluation data: 1.19676087751

Accuracy on evaluation data: 9641 / 10000

Epoch 211 training complete

Cost on training data: 0.372739129378

Accuracy on training data: 48616 / 50000

Cost on evaluation data: 1.18127200413

Accuracy on evaluation data: 9639 / 10000

Epoch 212 training complete

Cost on training data: 0.447992767164

Accuracy on training data: 47886 / 50000

Cost on evaluation data: 1.27290243506

Accuracy on evaluation data: 9476 / 10000

Epoch 213 training complete

Cost on training data: 0.371628611005

Accuracy on training data: 48617 / 50000

Cost on evaluation data: 1.20239344341

Accuracy on evaluation data: 9600 / 10000

Epoch 214 training complete

Cost on training data: 0.45420782836

Accuracy on training data: 47823 / 50000

Cost on evaluation data: 1.25434135629

Accuracy on evaluation data: 9511 / 10000

Epoch 215 training complete

Cost on training data: 0.438238308313

Accuracy on training data: 47928 / 50000

Cost on evaluation data: 1.25950856944

Accuracy on evaluation data: 9489 / 10000

Epoch 216 training complete

Cost on training data: 0.364527390231

Accuracy on training data: 48646 / 50000

Cost on evaluation data: 1.19046631738

Accuracy on evaluation data: 9623 / 10000

Epoch 217 training complete

Cost on training data: 0.36877585602

Accuracy on training data: 48668 / 50000

Cost on evaluation data: 1.18699161736

Accuracy on evaluation data: 9644 / 10000

Epoch 218 training complete

Cost on training data: 0.462938013323

Accuracy on training data: 47712 / 50000

Cost on evaluation data: 1.29036593029

Accuracy on evaluation data: 9446 / 10000

Epoch 219 training complete

Cost on training data: 0.37795867513

Accuracy on training data: 48515 / 50000

Cost on evaluation data: 1.20039839812

Accuracy on evaluation data: 9605 / 10000

Epoch 220 training complete

Cost on training data: 0.351450935105

Accuracy on training data: 48722 / 50000

Cost on evaluation data: 1.15873089436

Accuracy on evaluation data: 9658 / 10000

Epoch 221 training complete

Cost on training data: 0.424302104836

Accuracy on training data: 48108 / 50000

Cost on evaluation data: 1.22756005545

Accuracy on evaluation data: 9544 / 10000

Epoch 222 training complete

Cost on training data: 0.369477591611

Accuracy on training data: 48582 / 50000

Cost on evaluation data: 1.18439386892

Accuracy on evaluation data: 9634 / 10000

Epoch 223 training complete

Cost on training data: 0.383836947655

Accuracy on training data: 48463 / 50000

Cost on evaluation data: 1.1965380464

Accuracy on evaluation data: 9619 / 10000

Epoch 224 training complete

Cost on training data: 0.385436158433

Accuracy on training data: 48484 / 50000

Cost on evaluation data: 1.20565775615

Accuracy on evaluation data: 9594 / 10000

Epoch 225 training complete

Cost on training data: 0.388650434019

Accuracy on training data: 48378 / 50000

Cost on evaluation data: 1.20083745274

Accuracy on evaluation data: 9622 / 10000

Epoch 226 training complete

Cost on training data: 0.406942562288

Accuracy on training data: 48204 / 50000

Cost on evaluation data: 1.2137766956

Accuracy on evaluation data: 9558 / 10000

Epoch 227 training complete

Cost on training data: 0.378980331741

Accuracy on training data: 48497 / 50000

Cost on evaluation data: 1.19378988103

Accuracy on evaluation data: 9608 / 10000

Epoch 228 training complete

Cost on training data: 0.395599949846

Accuracy on training data: 48396 / 50000

Cost on evaluation data: 1.2190323494

Accuracy on evaluation data: 9587 / 10000

Epoch 229 training complete

Cost on training data: 0.373828653431

Accuracy on training data: 48532 / 50000

Cost on evaluation data: 1.20555217333

Accuracy on evaluation data: 9599 / 10000

Epoch 230 training complete

Cost on training data: 0.38180624524

Accuracy on training data: 48468 / 50000

Cost on evaluation data: 1.20095285397

Accuracy on evaluation data: 9593 / 10000

Epoch 231 training complete

Cost on training data: 0.388763562577

Accuracy on training data: 48415 / 50000

Cost on evaluation data: 1.22216433669

Accuracy on evaluation data: 9562 / 10000

Epoch 232 training complete

Cost on training data: 0.418294305781

Accuracy on training data: 48189 / 50000

Cost on evaluation data: 1.23465449607

Accuracy on evaluation data: 9556 / 10000

Epoch 233 training complete

Cost on training data: 0.404070357197

Accuracy on training data: 48249 / 50000

Cost on evaluation data: 1.20246727235

Accuracy on evaluation data: 9604 / 10000

Epoch 234 training complete

Cost on training data: 0.37375409101

Accuracy on training data: 48545 / 50000

Cost on evaluation data: 1.18507708163

Accuracy on evaluation data: 9639 / 10000

Epoch 235 training complete

Cost on training data: 0.430964627071

Accuracy on training data: 47956 / 50000

Cost on evaluation data: 1.25087646902

Accuracy on evaluation data: 9507 / 10000

Epoch 236 training complete

Cost on training data: 0.43509638024

Accuracy on training data: 48007 / 50000

Cost on evaluation data: 1.26470039903

Accuracy on evaluation data: 9509 / 10000

Epoch 237 training complete

Cost on training data: 0.382169098844

Accuracy on training data: 48540 / 50000

Cost on evaluation data: 1.21364202668

Accuracy on evaluation data: 9571 / 10000

Epoch 238 training complete

Cost on training data: 0.412885740008

Accuracy on training data: 48207 / 50000

Cost on evaluation data: 1.216859619

Accuracy on evaluation data: 9583 / 10000

Epoch 239 training complete

Cost on training data: 0.439123795957

Accuracy on training data: 47922 / 50000

Cost on evaluation data: 1.24402311838

Accuracy on evaluation data: 9502 / 10000

Epoch 240 training complete

Cost on training data: 0.368408955249

Accuracy on training data: 48658 / 50000

Cost on evaluation data: 1.17748352309

Accuracy on evaluation data: 9623 / 10000

Epoch 241 training complete

Cost on training data: 0.368948975317

Accuracy on training data: 48577 / 50000

Cost on evaluation data: 1.17352883309

Accuracy on evaluation data: 9633 / 10000

Epoch 242 training complete

Cost on training data: 0.372379033155

Accuracy on training data: 48554 / 50000

Cost on evaluation data: 1.18695211202

Accuracy on evaluation data: 9634 / 10000

Epoch 243 training complete

Cost on training data: 0.441748697603

Accuracy on training data: 47999 / 50000

Cost on evaluation data: 1.25972593724

Accuracy on evaluation data: 9505 / 10000

Epoch 244 training complete

Cost on training data: 0.41985227221

Accuracy on training data: 48132 / 50000

Cost on evaluation data: 1.22514865427

Accuracy on evaluation data: 9555 / 10000

Epoch 245 training complete

Cost on training data: 0.388436213191

Accuracy on training data: 48407 / 50000

Cost on evaluation data: 1.21748653939

Accuracy on evaluation data: 9596 / 10000

Epoch 246 training complete

Cost on training data: 0.375628672907

Accuracy on training data: 48543 / 50000

Cost on evaluation data: 1.17455997431

Accuracy on evaluation data: 9647 / 10000

Epoch 247 training complete

Cost on training data: 0.365890747009

Accuracy on training data: 48609 / 50000

Cost on evaluation data: 1.183576858

Accuracy on evaluation data: 9620 / 10000

Epoch 248 training complete

Cost on training data: 0.433036882375

Accuracy on training data: 47961 / 50000

Cost on evaluation data: 1.23675067297

Accuracy on evaluation data: 9535 / 10000

Epoch 249 training complete

Cost on training data: 0.374331973518

Accuracy on training data: 48581 / 50000

Cost on evaluation data: 1.19104942323

Accuracy on evaluation data: 9620 / 10000

Epoch 250 training complete

Cost on training data: 0.428894008933

Accuracy on training data: 48052 / 50000

Cost on evaluation data: 1.2275641978

Accuracy on evaluation data: 9540 / 10000

Epoch 251 training complete

Cost on training data: 0.36481062109

Accuracy on training data: 48660 / 50000

Cost on evaluation data: 1.18797998483

Accuracy on evaluation data: 9626 / 10000

Epoch 252 training complete

Cost on training data: 0.383381866186

Accuracy on training data: 48459 / 50000

Cost on evaluation data: 1.20016929244

Accuracy on evaluation data: 9587 / 10000

Epoch 253 training complete

Cost on training data: 0.367077533116

Accuracy on training data: 48625 / 50000

Cost on evaluation data: 1.17942387876

Accuracy on evaluation data: 9634 / 10000

Epoch 254 training complete

Cost on training data: 0.399701935168

Accuracy on training data: 48377 / 50000

Cost on evaluation data: 1.22481242341

Accuracy on evaluation data: 9566 / 10000

Epoch 255 training complete

Cost on training data: 0.361461993626

Accuracy on training data: 48681 / 50000

Cost on evaluation data: 1.19459559935

Accuracy on evaluation data: 9599 / 10000

Epoch 256 training complete

Cost on training data: 0.410997289946

Accuracy on training data: 48272 / 50000

Cost on evaluation data: 1.23126281638

Accuracy on evaluation data: 9570 / 10000

Epoch 257 training complete

Cost on training data: 0.368264499293

Accuracy on training data: 48593 / 50000

Cost on evaluation data: 1.19047771036

Accuracy on evaluation data: 9641 / 10000

Epoch 258 training complete

Cost on training data: 0.42452410573

Accuracy on training data: 48169 / 50000

Cost on evaluation data: 1.23883849636

Accuracy on evaluation data: 9543 / 10000

Epoch 259 training complete

Cost on training data: 0.388545026014

Accuracy on training data: 48401 / 50000

Cost on evaluation data: 1.20461553735

Accuracy on evaluation data: 9583 / 10000

Epoch 260 training complete

Cost on training data: 0.448296209404

Accuracy on training data: 47912 / 50000

Cost on evaluation data: 1.26320156316

Accuracy on evaluation data: 9518 / 10000

Epoch 261 training complete

Cost on training data: 0.379319497209

Accuracy on training data: 48491 / 50000

Cost on evaluation data: 1.18835642785

Accuracy on evaluation data: 9633 / 10000

Epoch 262 training complete

Cost on training data: 0.393857057526

Accuracy on training data: 48420 / 50000

Cost on evaluation data: 1.19877700545

Accuracy on evaluation data: 9621 / 10000

Epoch 263 training complete

Cost on training data: 0.382934158246

Accuracy on training data: 48489 / 50000

Cost on evaluation data: 1.20198333007

Accuracy on evaluation data: 9587 / 10000

Epoch 264 training complete

Cost on training data: 0.361242972721

Accuracy on training data: 48634 / 50000

Cost on evaluation data: 1.17636079515

Accuracy on evaluation data: 9633 / 10000

Epoch 265 training complete

Cost on training data: 0.369591606272

Accuracy on training data: 48596 / 50000

Cost on evaluation data: 1.17683253166

Accuracy on evaluation data: 9619 / 10000

Epoch 266 training complete

Cost on training data: 0.36702616497

Accuracy on training data: 48633 / 50000

Cost on evaluation data: 1.18619489954

Accuracy on evaluation data: 9647 / 10000

Epoch 267 training complete

Cost on training data: 0.420044874448

Accuracy on training data: 48175 / 50000

Cost on evaluation data: 1.24769982948

Accuracy on evaluation data: 9506 / 10000

Epoch 268 training complete

Cost on training data: 0.435697871238

Accuracy on training data: 47986 / 50000

Cost on evaluation data: 1.24904903547

Accuracy on evaluation data: 9503 / 10000

Epoch 269 training complete

Cost on training data: 0.408034097926

Accuracy on training data: 48237 / 50000

Cost on evaluation data: 1.22305535525

Accuracy on evaluation data: 9572 / 10000

Epoch 270 training complete

Cost on training data: 0.412815747005

Accuracy on training data: 48181 / 50000

Cost on evaluation data: 1.2222104452

Accuracy on evaluation data: 9518 / 10000

Epoch 271 training complete

Cost on training data: 0.361534105171

Accuracy on training data: 48664 / 50000

Cost on evaluation data: 1.18079117248

Accuracy on evaluation data: 9630 / 10000

Epoch 272 training complete

Cost on training data: 0.365734739529

Accuracy on training data: 48676 / 50000

Cost on evaluation data: 1.18776125718

Accuracy on evaluation data: 9632 / 10000

Epoch 273 training complete

Cost on training data: 0.379365432955

Accuracy on training data: 48559 / 50000

Cost on evaluation data: 1.19909862243

Accuracy on evaluation data: 9611 / 10000

Epoch 274 training complete

Cost on training data: 0.44348592176

Accuracy on training data: 47896 / 50000

Cost on evaluation data: 1.23739002593

Accuracy on evaluation data: 9529 / 10000

Epoch 275 training complete

Cost on training data: 0.479239861563

Accuracy on training data: 47596 / 50000

Cost on evaluation data: 1.27688965539

Accuracy on evaluation data: 9468 / 10000

Epoch 276 training complete

Cost on training data: 0.386987133868

Accuracy on training data: 48429 / 50000

Cost on evaluation data: 1.21442920153

Accuracy on evaluation data: 9563 / 10000

Epoch 277 training complete

Cost on training data: 0.407426274909

Accuracy on training data: 48315 / 50000

Cost on evaluation data: 1.24006300671

Accuracy on evaluation data: 9540 / 10000

Epoch 278 training complete

Cost on training data: 0.452188609531

Accuracy on training data: 47925 / 50000

Cost on evaluation data: 1.27405363264

Accuracy on evaluation data: 9492 / 10000

Epoch 279 training complete

Cost on training data: 0.465033353795

Accuracy on training data: 47741 / 50000

Cost on evaluation data: 1.27926170032

Accuracy on evaluation data: 9466 / 10000

Epoch 280 training complete

Cost on training data: 0.377225998099

Accuracy on training data: 48478 / 50000

Cost on evaluation data: 1.19611637871

Accuracy on evaluation data: 9619 / 10000

Epoch 281 training complete

Cost on training data: 0.403429536655

Accuracy on training data: 48272 / 50000

Cost on evaluation data: 1.22775459139

Accuracy on evaluation data: 9543 / 10000

Epoch 282 training complete

Cost on training data: 0.42314093454

Accuracy on training data: 48090 / 50000

Cost on evaluation data: 1.23584158108

Accuracy on evaluation data: 9536 / 10000

Epoch 283 training complete

Cost on training data: 0.373771978988

Accuracy on training data: 48501 / 50000

Cost on evaluation data: 1.20031377649

Accuracy on evaluation data: 9588 / 10000

Epoch 284 training complete

Cost on training data: 0.384932914165

Accuracy on training data: 48493 / 50000

Cost on evaluation data: 1.20226219779

Accuracy on evaluation data: 9609 / 10000

Epoch 285 training complete

Cost on training data: 0.405980241415

Accuracy on training data: 48183 / 50000

Cost on evaluation data: 1.21339294

Accuracy on evaluation data: 9548 / 10000

Epoch 286 training complete

Cost on training data: 0.380709166823

Accuracy on training data: 48442 / 50000

Cost on evaluation data: 1.19817107159

Accuracy on evaluation data: 9592 / 10000

Epoch 287 training complete

Cost on training data: 0.361201505786

Accuracy on training data: 48615 / 50000

Cost on evaluation data: 1.17496720695

Accuracy on evaluation data: 9637 / 10000

Epoch 288 training complete

Cost on training data: 0.42932808248

Accuracy on training data: 48069 / 50000

Cost on evaluation data: 1.25298977717

Accuracy on evaluation data: 9498 / 10000

Epoch 289 training complete

Cost on training data: 0.37865364806

Accuracy on training data: 48472 / 50000

Cost on evaluation data: 1.18602283287

Accuracy on evaluation data: 9617 / 10000

Epoch 290 training complete

Cost on training data: 0.403107647542

Accuracy on training data: 48301 / 50000

Cost on evaluation data: 1.21226759426

Accuracy on evaluation data: 9583 / 10000

Epoch 291 training complete

Cost on training data: 0.383053788975

Accuracy on training data: 48419 / 50000

Cost on evaluation data: 1.1960332075

Accuracy on evaluation data: 9591 / 10000

Epoch 292 training complete

Cost on training data: 0.405364975933

Accuracy on training data: 48219 / 50000

Cost on evaluation data: 1.20864455756

Accuracy on evaluation data: 9577 / 10000

Epoch 293 training complete

Cost on training data: 0.378875826101

Accuracy on training data: 48536 / 50000

Cost on evaluation data: 1.18581321704

Accuracy on evaluation data: 9611 / 10000

Epoch 294 training complete

Cost on training data: 0.404197053071

Accuracy on training data: 48273 / 50000

Cost on evaluation data: 1.23121767046

Accuracy on evaluation data: 9543 / 10000

Epoch 295 training complete

Cost on training data: 0.380477198117

Accuracy on training data: 48471 / 50000

Cost on evaluation data: 1.21440085133

Accuracy on evaluation data: 9567 / 10000

Epoch 296 training complete

Cost on training data: 0.373386278309

Accuracy on training data: 48576 / 50000

Cost on evaluation data: 1.20122514565

Accuracy on evaluation data: 9597 / 10000

Epoch 297 training complete

Cost on training data: 0.385978166746

Accuracy on training data: 48432 / 50000

Cost on evaluation data: 1.19179140758

Accuracy on evaluation data: 9595 / 10000

Epoch 298 training complete

Cost on training data: 0.371879339223

Accuracy on training data: 48540 / 50000

Cost on evaluation data: 1.18563201955

Accuracy on evaluation data: 9615 / 10000

Epoch 299 training complete

Cost on training data: 0.416144273717

Accuracy on training data: 48126 / 50000

Cost on evaluation data: 1.23121402778

Accuracy on evaluation data: 9546 / 10000

Epoch 300 training complete

Cost on training data: 0.371563370816

Accuracy on training data: 48571 / 50000

Cost on evaluation data: 1.16922488013

Accuracy on evaluation data: 9633 / 10000

Epoch 301 training complete

Cost on training data: 0.354511221981

Accuracy on training data: 48696 / 50000

Cost on evaluation data: 1.16093633989

Accuracy on evaluation data: 9656 / 10000

Epoch 302 training complete

Cost on training data: 0.425453746065

Accuracy on training data: 48065 / 50000

Cost on evaluation data: 1.25567890099

Accuracy on evaluation data: 9519 / 10000

Epoch 303 training complete

Cost on training data: 0.429801546517

Accuracy on training data: 48071 / 50000

Cost on evaluation data: 1.25268720769

Accuracy on evaluation data: 9533 / 10000

Epoch 304 training complete

Cost on training data: 0.381560927973

Accuracy on training data: 48418 / 50000

Cost on evaluation data: 1.17982075997

Accuracy on evaluation data: 9644 / 10000

Epoch 305 training complete

Cost on training data: 0.369087354882

Accuracy on training data: 48585 / 50000

Cost on evaluation data: 1.17591501649

Accuracy on evaluation data: 9645 / 10000

Epoch 306 training complete

Cost on training data: 0.37010439304

Accuracy on training data: 48526 / 50000

Cost on evaluation data: 1.16574450848

Accuracy on evaluation data: 9629 / 10000

Epoch 307 training complete

Cost on training data: 0.398413107394

Accuracy on training data: 48349 / 50000

Cost on evaluation data: 1.22421056997

Accuracy on evaluation data: 9575 / 10000

Epoch 308 training complete

Cost on training data: 0.407816290136

Accuracy on training data: 48284 / 50000

Cost on evaluation data: 1.21946608505

Accuracy on evaluation data: 9548 / 10000

Epoch 309 training complete

Cost on training data: 0.4380950338

Accuracy on training data: 47968 / 50000

Cost on evaluation data: 1.27029786758

Accuracy on evaluation data: 9513 / 10000

Epoch 310 training complete

Cost on training data: 0.3893058441

Accuracy on training data: 48370 / 50000

Cost on evaluation data: 1.21220265904

Accuracy on evaluation data: 9560 / 10000

Epoch 311 training complete

Cost on training data: 0.397266362515

Accuracy on training data: 48327 / 50000

Cost on evaluation data: 1.19892882992

Accuracy on evaluation data: 9595 / 10000

Epoch 312 training complete

Cost on training data: 0.37763978288

Accuracy on training data: 48502 / 50000

Cost on evaluation data: 1.17534090539

Accuracy on evaluation data: 9628 / 10000

Epoch 313 training complete

Cost on training data: 0.382134012233

Accuracy on training data: 48439 / 50000

Cost on evaluation data: 1.19089365575

Accuracy on evaluation data: 9602 / 10000

Epoch 314 training complete

Cost on training data: 0.393449182816

Accuracy on training data: 48388 / 50000

Cost on evaluation data: 1.20187357638

Accuracy on evaluation data: 9599 / 10000

Epoch 315 training complete

Cost on training data: 0.408256505356

Accuracy on training data: 48323 / 50000

Cost on evaluation data: 1.22486340122

Accuracy on evaluation data: 9552 / 10000

Epoch 316 training complete

Cost on training data: 0.355672274328

Accuracy on training data: 48675 / 50000

Cost on evaluation data: 1.15888111216

Accuracy on evaluation data: 9651 / 10000

Epoch 317 training complete

Cost on training data: 0.434491763001

Accuracy on training data: 48002 / 50000

Cost on evaluation data: 1.22116138275

Accuracy on evaluation data: 9550 / 10000

Epoch 318 training complete

Cost on training data: 0.3938998621

Accuracy on training data: 48370 / 50000

Cost on evaluation data: 1.19939101698

Accuracy on evaluation data: 9591 / 10000

Epoch 319 training complete

Cost on training data: 0.382743596934

Accuracy on training data: 48452 / 50000

Cost on evaluation data: 1.18818428874

Accuracy on evaluation data: 9599 / 10000

Epoch 320 training complete

Cost on training data: 0.375482235583

Accuracy on training data: 48546 / 50000

Cost on evaluation data: 1.19185540292

Accuracy on evaluation data: 9614 / 10000

Epoch 321 training complete

Cost on training data: 0.380678319986

Accuracy on training data: 48502 / 50000

Cost on evaluation data: 1.18388589931

Accuracy on evaluation data: 9612 / 10000

Epoch 322 training complete

Cost on training data: 0.386771606347

Accuracy on training data: 48396 / 50000

Cost on evaluation data: 1.20201852272

Accuracy on evaluation data: 9561 / 10000

Epoch 323 training complete

Cost on training data: 0.394080078946

Accuracy on training data: 48402 / 50000

Cost on evaluation data: 1.20934112695

Accuracy on evaluation data: 9576 / 10000

Epoch 324 training complete

Cost on training data: 0.467209044565

Accuracy on training data: 47733 / 50000

Cost on evaluation data: 1.25869864359

Accuracy on evaluation data: 9483 / 10000

Epoch 325 training complete

Cost on training data: 0.39266510035

Accuracy on training data: 48401 / 50000

Cost on evaluation data: 1.20608726208

Accuracy on evaluation data: 9579 / 10000

Epoch 326 training complete

Cost on training data: 0.433233742611

Accuracy on training data: 48070 / 50000

Cost on evaluation data: 1.24428509417

Accuracy on evaluation data: 9520 / 10000

Epoch 327 training complete

Cost on training data: 0.37587178062

Accuracy on training data: 48541 / 50000

Cost on evaluation data: 1.1766430732

Accuracy on evaluation data: 9632 / 10000

Epoch 328 training complete

Cost on training data: 0.375877632755

Accuracy on training data: 48532 / 50000

Cost on evaluation data: 1.17414009368

Accuracy on evaluation data: 9642 / 10000

Epoch 329 training complete

Cost on training data: 0.412213926568

Accuracy on training data: 48228 / 50000

Cost on evaluation data: 1.21069686956

Accuracy on evaluation data: 9580 / 10000

Epoch 330 training complete

Cost on training data: 0.398966561008

Accuracy on training data: 48324 / 50000

Cost on evaluation data: 1.21535339933

Accuracy on evaluation data: 9561 / 10000

Epoch 331 training complete

Cost on training data: 0.385011872614

Accuracy on training data: 48457 / 50000

Cost on evaluation data: 1.1929752551

Accuracy on evaluation data: 9614 / 10000

Epoch 332 training complete

Cost on training data: 0.389615581184

Accuracy on training data: 48373 / 50000

Cost on evaluation data: 1.19224949852

Accuracy on evaluation data: 9622 / 10000

Epoch 333 training complete

Cost on training data: 0.374205579696

Accuracy on training data: 48521 / 50000

Cost on evaluation data: 1.17579297135

Accuracy on evaluation data: 9623 / 10000

Epoch 334 training complete

Cost on training data: 0.408161644114

Accuracy on training data: 48234 / 50000

Cost on evaluation data: 1.23046151185

Accuracy on evaluation data: 9557 / 10000

Epoch 335 training complete

Cost on training data: 0.37726154306

Accuracy on training data: 48507 / 50000

Cost on evaluation data: 1.19874090868

Accuracy on evaluation data: 9597 / 10000

Epoch 336 training complete

Cost on training data: 0.36653104

Accuracy on training data: 48659 / 50000

Cost on evaluation data: 1.17402611549

Accuracy on evaluation data: 9623 / 10000

Epoch 337 training complete

Cost on training data: 0.3932585791

Accuracy on training data: 48363 / 50000

Cost on evaluation data: 1.18802572015

Accuracy on evaluation data: 9607 / 10000

Epoch 338 training complete

Cost on training data: 0.359454168894

Accuracy on training data: 48672 / 50000

Cost on evaluation data: 1.18111463632

Accuracy on evaluation data: 9629 / 10000

Epoch 339 training complete

Cost on training data: 0.400061247208

Accuracy on training data: 48299 / 50000

Cost on evaluation data: 1.20697514896

Accuracy on evaluation data: 9577 / 10000

Epoch 340 training complete

Cost on training data: 0.369196257661

Accuracy on training data: 48585 / 50000

Cost on evaluation data: 1.17728414189

Accuracy on evaluation data: 9617 / 10000

Epoch 341 training complete

Cost on training data: 0.388616157891

Accuracy on training data: 48401 / 50000

Cost on evaluation data: 1.20541981295

Accuracy on evaluation data: 9594 / 10000

Epoch 342 training complete

Cost on training data: 0.445266537084

Accuracy on training data: 47883 / 50000

Cost on evaluation data: 1.24136107559

Accuracy on evaluation data: 9540 / 10000

Epoch 343 training complete

Cost on training data: 0.391351845622

Accuracy on training data: 48397 / 50000

Cost on evaluation data: 1.2064199413

Accuracy on evaluation data: 9586 / 10000

Epoch 344 training complete

Cost on training data: 0.376111011423

Accuracy on training data: 48513 / 50000

Cost on evaluation data: 1.19574232308

Accuracy on evaluation data: 9594 / 10000

Epoch 345 training complete

Cost on training data: 0.379807917946

Accuracy on training data: 48462 / 50000

Cost on evaluation data: 1.1771546748

Accuracy on evaluation data: 9606 / 10000

Epoch 346 training complete

Cost on training data: 0.400235730074

Accuracy on training data: 48260 / 50000

Cost on evaluation data: 1.20454183401

Accuracy on evaluation data: 9568 / 10000

Epoch 347 training complete

Cost on training data: 0.367184865415

Accuracy on training data: 48594 / 50000

Cost on evaluation data: 1.16758958852

Accuracy on evaluation data: 9665 / 10000

Epoch 348 training complete

Cost on training data: 0.381881583789

Accuracy on training data: 48443 / 50000

Cost on evaluation data: 1.1969392782

Accuracy on evaluation data: 9600 / 10000

Epoch 349 training complete

Cost on training data: 0.364934126379

Accuracy on training data: 48629 / 50000

Cost on evaluation data: 1.17666309405

Accuracy on evaluation data: 9644 / 10000

Epoch 350 training complete

Cost on training data: 0.394494867168

Accuracy on training data: 48346 / 50000

Cost on evaluation data: 1.20838492798

Accuracy on evaluation data: 9591 / 10000

Epoch 351 training complete

Cost on training data: 0.369563216245

Accuracy on training data: 48594 / 50000

Cost on evaluation data: 1.18832494165

Accuracy on evaluation data: 9607 / 10000

Epoch 352 training complete

Cost on training data: 0.386820586151

Accuracy on training data: 48370 / 50000

Cost on evaluation data: 1.20208907023

Accuracy on evaluation data: 9597 / 10000

Epoch 353 training complete

Cost on training data: 0.38832737003

Accuracy on training data: 48447 / 50000

Cost on evaluation data: 1.20470153349

Accuracy on evaluation data: 9602 / 10000

Epoch 354 training complete

Cost on training data: 0.377013473917

Accuracy on training data: 48485 / 50000

Cost on evaluation data: 1.18536815819

Accuracy on evaluation data: 9630 / 10000

Epoch 355 training complete

Cost on training data: 0.397662037342

Accuracy on training data: 48339 / 50000

Cost on evaluation data: 1.21458659602

Accuracy on evaluation data: 9608 / 10000

Epoch 356 training complete

Cost on training data: 0.385996966739

Accuracy on training data: 48472 / 50000

Cost on evaluation data: 1.18871909472

Accuracy on evaluation data: 9591 / 10000

Epoch 357 training complete

Cost on training data: 0.367301167494

Accuracy on training data: 48619 / 50000

Cost on evaluation data: 1.18756535994

Accuracy on evaluation data: 9616 / 10000

Epoch 358 training complete

Cost on training data: 0.385676906988

Accuracy on training data: 48426 / 50000

Cost on evaluation data: 1.19636510257

Accuracy on evaluation data: 9585 / 10000

Epoch 359 training complete

Cost on training data: 0.360908162735

Accuracy on training data: 48648 / 50000

Cost on evaluation data: 1.16750155676

Accuracy on evaluation data: 9615 / 10000

Epoch 360 training complete

Cost on training data: 0.357310939635

Accuracy on training data: 48716 / 50000

Cost on evaluation data: 1.17206407496

Accuracy on evaluation data: 9652 / 10000

Epoch 361 training complete

Cost on training data: 0.39504281961

Accuracy on training data: 48330 / 50000

Cost on evaluation data: 1.21088803402

Accuracy on evaluation data: 9572 / 10000

Epoch 362 training complete

Cost on training data: 0.39100627341

Accuracy on training data: 48416 / 50000

Cost on evaluation data: 1.18996176371

Accuracy on evaluation data: 9593 / 10000

Epoch 363 training complete

Cost on training data: 0.371682739198

Accuracy on training data: 48593 / 50000

Cost on evaluation data: 1.18894758765

Accuracy on evaluation data: 9642 / 10000

Epoch 364 training complete

Cost on training data: 0.389757548655

Accuracy on training data: 48451 / 50000

Cost on evaluation data: 1.19804300864

Accuracy on evaluation data: 9606 / 10000

Epoch 365 training complete

Cost on training data: 0.38081659718

Accuracy on training data: 48464 / 50000

Cost on evaluation data: 1.20008500804

Accuracy on evaluation data: 9633 / 10000

Epoch 366 training complete

Cost on training data: 0.395711075951

Accuracy on training data: 48397 / 50000

Cost on evaluation data: 1.20084815182

Accuracy on evaluation data: 9603 / 10000

Epoch 367 training complete

Cost on training data: 0.384585458337

Accuracy on training data: 48453 / 50000

Cost on evaluation data: 1.20850079349

Accuracy on evaluation data: 9585 / 10000

Epoch 368 training complete

Cost on training data: 0.422506433936

Accuracy on training data: 48052 / 50000

Cost on evaluation data: 1.22900671863

Accuracy on evaluation data: 9535 / 10000

Epoch 369 training complete

Cost on training data: 0.39180616473

Accuracy on training data: 48403 / 50000

Cost on evaluation data: 1.20885013058

Accuracy on evaluation data: 9588 / 10000

Epoch 370 training complete

Cost on training data: 0.385667728255

Accuracy on training data: 48460 / 50000

Cost on evaluation data: 1.19629739238

Accuracy on evaluation data: 9602 / 10000

Epoch 371 training complete

Cost on training data: 0.377209061231

Accuracy on training data: 48524 / 50000

Cost on evaluation data: 1.17703900468

Accuracy on evaluation data: 9629 / 10000

Epoch 372 training complete

Cost on training data: 0.407798516206

Accuracy on training data: 48152 / 50000

Cost on evaluation data: 1.20170323359

Accuracy on evaluation data: 9581 / 10000

Epoch 373 training complete

Cost on training data: 0.396382456149

Accuracy on training data: 48311 / 50000

Cost on evaluation data: 1.20867676594

Accuracy on evaluation data: 9580 / 10000

Epoch 374 training complete

Cost on training data: 0.413774031333

Accuracy on training data: 48214 / 50000

Cost on evaluation data: 1.2357442679

Accuracy on evaluation data: 9522 / 10000

Epoch 375 training complete

Cost on training data: 0.445281212716

Accuracy on training data: 47902 / 50000

Cost on evaluation data: 1.25564647718

Accuracy on evaluation data: 9503 / 10000

Epoch 376 training complete

Cost on training data: 0.379507909824

Accuracy on training data: 48504 / 50000

Cost on evaluation data: 1.18865703433

Accuracy on evaluation data: 9603 / 10000

Epoch 377 training complete

Cost on training data: 0.390527227007

Accuracy on training data: 48386 / 50000

Cost on evaluation data: 1.21084543792

Accuracy on evaluation data: 9587 / 10000

Epoch 378 training complete

Cost on training data: 0.403145658624

Accuracy on training data: 48338 / 50000

Cost on evaluation data: 1.2207532175

Accuracy on evaluation data: 9591 / 10000

Epoch 379 training complete

Cost on training data: 0.379946538172

Accuracy on training data: 48480 / 50000

Cost on evaluation data: 1.20339636612

Accuracy on evaluation data: 9607 / 10000

Epoch 380 training complete

Cost on training data: 0.366577595745

Accuracy on training data: 48600 / 50000

Cost on evaluation data: 1.19035841855

Accuracy on evaluation data: 9585 / 10000

Epoch 381 training complete

Cost on training data: 0.380987998181

Accuracy on training data: 48446 / 50000

Cost on evaluation data: 1.18476001531

Accuracy on evaluation data: 9631 / 10000

Epoch 382 training complete

Cost on training data: 0.389108350814

Accuracy on training data: 48345 / 50000

Cost on evaluation data: 1.19508077369

Accuracy on evaluation data: 9591 / 10000

Epoch 383 training complete

Cost on training data: 0.369233832936

Accuracy on training data: 48570 / 50000

Cost on evaluation data: 1.17491986832

Accuracy on evaluation data: 9641 / 10000

Epoch 384 training complete

Cost on training data: 0.365350085405

Accuracy on training data: 48678 / 50000

Cost on evaluation data: 1.1688382969

Accuracy on evaluation data: 9667 / 10000

Epoch 385 training complete

Cost on training data: 0.381308911271

Accuracy on training data: 48535 / 50000

Cost on evaluation data: 1.19695607146

Accuracy on evaluation data: 9612 / 10000

Epoch 386 training complete

Cost on training data: 0.397443539603

Accuracy on training data: 48312 / 50000

Cost on evaluation data: 1.21336032163

Accuracy on evaluation data: 9580 / 10000

Epoch 387 training complete

Cost on training data: 0.363323786285

Accuracy on training data: 48653 / 50000

Cost on evaluation data: 1.17353932808

Accuracy on evaluation data: 9642 / 10000

Epoch 388 training complete

Cost on training data: 0.429184854516

Accuracy on training data: 48036 / 50000

Cost on evaluation data: 1.22660293418

Accuracy on evaluation data: 9547 / 10000

Epoch 389 training complete

Cost on training data: 0.388040015498

Accuracy on training data: 48382 / 50000

Cost on evaluation data: 1.18679463449

Accuracy on evaluation data: 9612 / 10000

Epoch 390 training complete

Cost on training data: 0.397283068235

Accuracy on training data: 48335 / 50000

Cost on evaluation data: 1.21222895869

Accuracy on evaluation data: 9564 / 10000

Epoch 391 training complete

Cost on training data: 0.387507758047

Accuracy on training data: 48410 / 50000

Cost on evaluation data: 1.20325036345

Accuracy on evaluation data: 9609 / 10000

Epoch 392 training complete

Cost on training data: 0.390494489066

Accuracy on training data: 48401 / 50000

Cost on evaluation data: 1.20196957287

Accuracy on evaluation data: 9607 / 10000

Epoch 393 training complete

Cost on training data: 0.398982535445

Accuracy on training data: 48279 / 50000

Cost on evaluation data: 1.21198079888

Accuracy on evaluation data: 9576 / 10000

Epoch 394 training complete

Cost on training data: 0.385185013068

Accuracy on training data: 48421 / 50000

Cost on evaluation data: 1.19380244098

Accuracy on evaluation data: 9608 / 10000

Epoch 395 training complete

Cost on training data: 0.38356132983

Accuracy on training data: 48449 / 50000

Cost on evaluation data: 1.20101749606

Accuracy on evaluation data: 9581 / 10000

Epoch 396 training complete

Cost on training data: 0.37036296388

Accuracy on training data: 48633 / 50000

Cost on evaluation data: 1.18438699151

Accuracy on evaluation data: 9614 / 10000

Epoch 397 training complete

Cost on training data: 0.416864988458

Accuracy on training data: 48116 / 50000

Cost on evaluation data: 1.23234256762

Accuracy on evaluation data: 9530 / 10000

Epoch 398 training complete

Cost on training data: 0.38256710956

Accuracy on training data: 48463 / 50000

Cost on evaluation data: 1.1956651202

Accuracy on evaluation data: 9598 / 10000

Epoch 399 training complete

Cost on training data: 0.378665922385

Accuracy on training data: 48518 / 50000

Cost on evaluation data: 1.185638162

Accuracy on evaluation data: 9646 / 10000