```
ssh://root@103.254.67.181:10006/usr/bin/python -u /home/sunfengzhen/pycharm/Encoder/AutoEncoder.py
WARNING:tensorflow:From /home/sunfengzhen/pycharm/Encoder/AutoEncoder.py:22: read_data_sets (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.
Instructions for updating:
Please use alternatives such as official/mnist/dataset.py from tensorflow/models.
WARNING:tensorflow:From /usr/local/lib/python2.7/dist-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:260: maybe_download (from tensorflow.contrib.learn.python.learn.datasets.base) is deprecated and will be removed in a future version.
Instructions for updating:
Please write your own downloading logic.
WARNING:tensorflow:From /usr/local/lib/python2.7/dist-packages/tensorflow/
```

```
contrib/learn/python/learn/datasets/mnist.py:262: extract_images (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.
Instructions for updating:
Please use tf.data to implement this functionality.
Extracting data/train-images-idx3-ubyte.gz
WARNING:tensorflow:From /usr/local/lib/python2.7/dist-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:267: extract_labels (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.
Instructions for updating:
Please use tf.data to implement this functionality.
Extracting data/train-labels-idx1-ubyte.gz
Extracting data/t10k-images-idx3-ubyte.gz
Extracting data/t10k-labels-idx1-ubyte.gz
WARNING:tensorflow:From /usr/local/lib/python2.7/dist-packages/tensorflow/contrib/learn/python/learn/datasets/mnist.py:290: __init__ (from tensorflow.contrib.learn.python.learn.datasets.mnist) is deprecated and will be removed in a future version.
Instructions for updating:
Please use alternatives such as official/mnist/dataset.py from tensorflow/models.
2019-04-16 04:01:11.419677: I tensorflow/core/platform/cpu_feature_guard.cc:141] Your CPU supports instructions that this TensorFlow binary was not compiled to use: AVX2 FMA
2019-04-16 04:01:12.183783: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1432] Found device 0 with properties:
name: GeForce GTX 1080 Ti major: 6 minor: 1 memoryClockRate(GHz): 1.582
pciBusID: 0000:02:00.0
```

```
totalMemory: 10.92GiB freeMemory: 451.50MiB
2019-04-16 04:01:12.373136: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1432] Found device 1 with properties: 
name: GeForce GTX 1080 Ti major: 6 minor: 1 memoryClockRate(GHz): 1.582
pciBusID: 0000:82:00.0
totalMemory: 10.92GiB freeMemory: 10.76GiB
2019-04-16 04:01:12.373252: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1511] Adding visible gpu devices: 0, 1
2019-04-16 04:01:13.066449: I tensorflow/core/common_runtime/gpu/gpu_device.cc:982] Device interconnect StreamExecutor with strength 1 edge matrix:
2019-04-16 04:01:13.066521: I tensorflow/core/common_runtime/gpu/gpu_device.cc:988]      0 1 
2019-04-16 04:01:13.066532: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1001] 0:   N N 
2019-04-16 04:01:13.066539: I tensorflow
```

```
/core/common_runtime/gpu/gpu_device.cc:1001] 1:   N N
2019-04-16 04:01:13.066948: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1115] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:0 with 162 MB memory) -> physical GPU (device: 0, name: GeForce GTX 1080 Ti, pci bus id: 0000:02:00.0, compute capability: 6.1)
2019-04-16 04:01:13.067616: I tensorflow/core/common_runtime/gpu/gpu_device.cc:1115] Created TensorFlow device (/job:localhost/replica:0/task:0/device:GPU:1 with 10409 MB memory) -> physical GPU (device: 1, name: GeForce GTX 1080 Ti, pci bus id: 0000:82:00.0, compute capability: 6.1)
Epoch: 0001 cost= 0.090520002
Epoch: 0002 cost= 0.076566674
Epoch: 0003 cost= 0.074612767
Epoch: 0004 cost= 0.068142571
Epoch: 0005 cost= 0.061783504
Epoch: 0006 cost= 0.061147884
```

```
Epoch: 0007 cost= 0.057309739
Epoch: 0008 cost= 0.058947813
Epoch: 0009 cost= 0.054785401
Epoch: 0010 cost= 0.055461440
Epoch: 0011 cost= 0.054969136
Epoch: 0012 cost= 0.054216843
Epoch: 0013 cost= 0.053042412
Epoch: 0014 cost= 0.054808807
Epoch: 0015 cost= 0.050671104
Epoch: 0016 cost= 0.053510178
Epoch: 0017 cost= 0.051654357
Epoch: 0018 cost= 0.051548179
Epoch: 0019 cost= 0.051543713
Epoch: 0020 cost= 0.049181525
Epoch: 0021 cost= 0.050206278
Epoch: 0022 cost= 0.050126072
Epoch: 0023 cost= 0.047918793
Epoch: 0024 cost= 0.047164585
Epoch: 0025 cost= 0.050134551
Epoch: 0026 cost= 0.047976434
Epoch: 0027 cost= 0.046613920
Epoch: 0028 cost= 0.048329342
Epoch: 0029 cost= 0.048408717
Epoch: 0030 cost= 0.047031455
```

```
Epoch: 0031 cost= 0.048584085
Epoch: 0032 cost= 0.049148325
Epoch: 0033 cost= 0.047473419
Epoch: 0034 cost= 0.046975117
Epoch: 0035 cost= 0.046738051
Epoch: 0036 cost= 0.046703242
Epoch: 0037 cost= 0.046489462
Epoch: 0038 cost= 0.048609968
Epoch: 0039 cost= 0.047403473
Epoch: 0040 cost= 0.047933917
Epoch: 0041 cost= 0.047837500
Epoch: 0042 cost= 0.046360329
Epoch: 0043 cost= 0.046316400
Epoch: 0044 cost= 0.045747995
Epoch: 0045 cost= 0.047619678
Epoch: 0046 cost= 0.046185281
Epoch: 0047 cost= 0.047187947
Epoch: 0048 cost= 0.047088712
Epoch: 0049 cost= 0.047193319
Epoch: 0050 cost= 0.046455987
Epoch: 0051 cost= 0.046208624
Epoch: 0052 cost= 0.045762669
Epoch: 0053 cost= 0.044242363
Epoch: 0054 cost= 0.045324568
```

```
Epoch: 0055 cost= 0.046938829
Epoch: 0056 cost= 0.046628129
Epoch: 0057 cost= 0.046476141
Epoch: 0058 cost= 0.044889532
Epoch: 0059 cost= 0.046596624
Epoch: 0060 cost= 0.045610301
Epoch: 0061 cost= 0.046083838
Epoch: 0062 cost= 0.044673998
Epoch: 0063 cost= 0.044382408
Epoch: 0064 cost= 0.042188946
Epoch: 0065 cost= 0.046305511
Epoch: 0066 cost= 0.043950684
Epoch: 0067 cost= 0.043613669
Epoch: 0068 cost= 0.042471960
Epoch: 0069 cost= 0.045052286
Epoch: 0070 cost= 0.044129513
Epoch: 0071 cost= 0.045141775
Epoch: 0072 cost= 0.042514235
Epoch: 0073 cost= 0.043602955
Epoch: 0074 cost= 0.044548161
Epoch: 0075 cost= 0.044529404
Epoch: 0076 cost= 0.043696288
Epoch: 0077 cost= 0.044548813
Epoch: 0078 cost= 0.045951299
```

```
Epoch: 0079 cost= 0.043067165
Epoch: 0080 cost= 0.042459793
Epoch: 0081 cost= 0.041861739
Epoch: 0082 cost= 0.044121169
Epoch: 0083 cost= 0.042755749
Epoch: 0084 cost= 0.044041269
Epoch: 0085 cost= 0.043108098
Epoch: 0086 cost= 0.041695192
Epoch: 0087 cost= 0.043223187
Epoch: 0088 cost= 0.042453669
Epoch: 0089 cost= 0.043530159
Epoch: 0090 cost= 0.043861378
Epoch: 0091 cost= 0.045175839
Epoch: 0092 cost= 0.041647926
Epoch: 0093 cost= 0.043846384
Epoch: 0094 cost= 0.043153148
Epoch: 0095 cost= 0.042310942
Epoch: 0096 cost= 0.043346681
Epoch: 0097 cost= 0.043576896
Epoch: 0098 cost= 0.044894580
Epoch: 0099 cost= 0.043865312
Epoch: 0100 cost= 0.041757807
Epoch: 0101 cost= 0.043218862
Epoch: 0102 cost= 0.043193847
```

```
Epoch: 0103 cost= 0.042658757
Epoch: 0104 cost= 0.042201269
Epoch: 0105 cost= 0.045854092
Epoch: 0106 cost= 0.042181227
Epoch: 0107 cost= 0.043880288
Epoch: 0108 cost= 0.042130549
Epoch: 0109 cost= 0.044299766
Epoch: 0110 cost= 0.042568032
Epoch: 0111 cost= 0.043814406
Epoch: 0112 cost= 0.042486131
Epoch: 0113 cost= 0.041765623
Epoch: 0114 cost= 0.042217001
Epoch: 0115 cost= 0.043798942
Epoch: 0116 cost= 0.044058222
Epoch: 0117 cost= 0.043079864
Epoch: 0118 cost= 0.043484055
Epoch: 0119 cost= 0.041863218
Epoch: 0120 cost= 0.044010926
Epoch: 0121 cost= 0.043799881
Epoch: 0122 cost= 0.043387059
Epoch: 0123 cost= 0.040643543
Epoch: 0124 cost= 0.042159747
Epoch: 0125 cost= 0.040484790
Epoch: 0126 cost= 0.042032730
```

```
Epoch: 0127 cost= 0.044960693
Epoch: 0128 cost= 0.044749647
Epoch: 0129 cost= 0.040801924
Epoch: 0130 cost= 0.040921181
Epoch: 0131 cost= 0.043492444
Epoch: 0132 cost= 0.043284003
Epoch: 0133 cost= 0.044567663
Epoch: 0134 cost= 0.042623732
Epoch: 0135 cost= 0.042469665
Epoch: 0136 cost= 0.039714318
Epoch: 0137 cost= 0.042161398
Epoch: 0138 cost= 0.040857367
Epoch: 0139 cost= 0.041442245
Epoch: 0140 cost= 0.043106969
Epoch: 0141 cost= 0.041895468
Epoch: 0142 cost= 0.040440064
Epoch: 0143 cost= 0.039785530
Epoch: 0144 cost= 0.041492559
Epoch: 0145 cost= 0.041094393
Epoch: 0146 cost= 0.040073600
Epoch: 0147 cost= 0.042250410
Epoch: 0148 cost= 0.038762368
Epoch: 0149 cost= 0.042421605
Epoch: 0150 cost= 0.041333962
```

```
Epoch: 0151 cost= 0.039795261
Epoch: 0152 cost= 0.042128105
Epoch: 0153 cost= 0.042132221
Epoch: 0154 cost= 0.040765669
Epoch: 0155 cost= 0.041065078
Epoch: 0156 cost= 0.041940700
Epoch: 0157 cost= 0.041335747
Epoch: 0158 cost= 0.040672544
Epoch: 0159 cost= 0.038985949
Epoch: 0160 cost= 0.040357865
Epoch: 0161 cost= 0.041372620
Epoch: 0162 cost= 0.042906415
Epoch: 0163 cost= 0.041763101
Epoch: 0164 cost= 0.041714251
Epoch: 0165 cost= 0.038946472
Epoch: 0166 cost= 0.039271958
Epoch: 0167 cost= 0.040344622
Epoch: 0168 cost= 0.042934947
Epoch: 0169 cost= 0.041017845
Epoch: 0170 cost= 0.039311077
Epoch: 0171 cost= 0.040374525
Epoch: 0172 cost= 0.043202717
Epoch: 0173 cost= 0.040809341
Epoch: 0174 cost= 0.042859439
```

```
Epoch: 0175 cost= 0.041606791
Epoch: 0176 cost= 0.041453362
Epoch: 0177 cost= 0.040735416
Epoch: 0178 cost= 0.040652707
Epoch: 0179 cost= 0.041766178
Epoch: 0180 cost= 0.040114973
Epoch: 0181 cost= 0.039540175
Epoch: 0182 cost= 0.040255245
Epoch: 0183 cost= 0.038812276
Epoch: 0184 cost= 0.040445562
Epoch: 0185 cost= 0.043297689
Epoch: 0186 cost= 0.043341015
Epoch: 0187 cost= 0.038495570
Epoch: 0188 cost= 0.041687440
Epoch: 0189 cost= 0.041397758
Epoch: 0190 cost= 0.039849572
Epoch: 0191 cost= 0.040703695
Epoch: 0192 cost= 0.040741082
Epoch: 0193 cost= 0.040501304
Epoch: 0194 cost= 0.041062281
Epoch: 0195 cost= 0.042204097
Epoch: 0196 cost= 0.041944318
Epoch: 0197 cost= 0.040061835
Epoch: 0198 cost= 0.041171964
```

```
Epoch: 0199 cost= 0.040675160
Epoch: 0200 cost= 0.042248469
Epoch: 0201 cost= 0.039198544
Epoch: 0202 cost= 0.039674006
Epoch: 0203 cost= 0.041868970
Epoch: 0204 cost= 0.040617503
Epoch: 0205 cost= 0.041771781
Epoch: 0206 cost= 0.040084295
Epoch: 0207 cost= 0.038392596
Epoch: 0208 cost= 0.039849747
Epoch: 0209 cost= 0.041394923
Epoch: 0210 cost= 0.041062504
Epoch: 0211 cost= 0.038099658
Epoch: 0212 cost= 0.040090140
Epoch: 0213 cost= 0.039608579
Epoch: 0214 cost= 0.040508710
Epoch: 0215 cost= 0.040554751
Epoch: 0216 cost= 0.041103806
Epoch: 0217 cost= 0.040760405
Epoch: 0218 cost= 0.041724972
Epoch: 0219 cost= 0.040119048
Epoch: 0220 cost= 0.041135497
Epoch: 0221 cost= 0.038537797
Epoch: 0222 cost= 0.038701262
```

```
Epoch: 0223 cost= 0.039296068
Epoch: 0224 cost= 0.041215375
Epoch: 0225 cost= 0.040793404
Epoch: 0226 cost= 0.042396232
Epoch: 0227 cost= 0.039839510
Epoch: 0228 cost= 0.039789949
Epoch: 0229 cost= 0.041208599
Epoch: 0230 cost= 0.040634956
Epoch: 0231 cost= 0.039199162
Epoch: 0232 cost= 0.040780317
Epoch: 0233 cost= 0.040694792
Epoch: 0234 cost= 0.040613074
Epoch: 0235 cost= 0.039918467
Epoch: 0236 cost= 0.041507758
Epoch: 0237 cost= 0.040351577
Epoch: 0238 cost= 0.040320620
Epoch: 0239 cost= 0.039636657
Epoch: 0240 cost= 0.038979597
Epoch: 0241 cost= 0.041234385
Epoch: 0242 cost= 0.042699676
Epoch: 0243 cost= 0.040288873
Epoch: 0244 cost= 0.039200719
Epoch: 0245 cost= 0.039751764
Epoch: 0246 cost= 0.039284725
```

```
Epoch: 0247 cost= 0.041387226
Epoch: 0248 cost= 0.041183721
Epoch: 0249 cost= 0.039709907
Epoch: 0250 cost= 0.042372510
Epoch: 0251 cost= 0.042815413
Epoch: 0252 cost= 0.041825328
Epoch: 0253 cost= 0.040963352
Epoch: 0254 cost= 0.040595483
Epoch: 0255 cost= 0.039882332
Epoch: 0256 cost= 0.038013425
Epoch: 0257 cost= 0.039525982
Epoch: 0258 cost= 0.038497794
Epoch: 0259 cost= 0.042059325
Epoch: 0260 cost= 0.039581511
Epoch: 0261 cost= 0.040365998
Epoch: 0262 cost= 0.040312923
Epoch: 0263 cost= 0.040308222
Epoch: 0264 cost= 0.041295003
Epoch: 0265 cost= 0.041860085
Epoch: 0266 cost= 0.040432595
Epoch: 0267 cost= 0.041312102
Epoch: 0268 cost= 0.040275570
Epoch: 0269 cost= 0.041832097
Epoch: 0270 cost= 0.039472178
```

```
Epoch: 0271 cost= 0.039514825
Epoch: 0272 cost= 0.037590358
Epoch: 0273 cost= 0.040122848
Epoch: 0274 cost= 0.039978325
Epoch: 0275 cost= 0.041037586
Epoch: 0276 cost= 0.039914001
Epoch: 0277 cost= 0.039422754
Epoch: 0278 cost= 0.040127147
Epoch: 0279 cost= 0.040419169
Epoch: 0280 cost= 0.038779639
Epoch: 0281 cost= 0.038083676
Epoch: 0282 cost= 0.040511247
Epoch: 0283 cost= 0.039538313
Epoch: 0284 cost= 0.040081289
Epoch: 0285 cost= 0.039707579
Epoch: 0286 cost= 0.038984530
Epoch: 0287 cost= 0.037738677
Epoch: 0288 cost= 0.038352177
Epoch: 0289 cost= 0.039706804
Epoch: 0290 cost= 0.040746178
Epoch: 0291 cost= 0.037685752
Epoch: 0292 cost= 0.036644761
Epoch: 0293 cost= 0.038972810
Epoch: 0294 cost= 0.040796530
```

```
Epoch: 0295 cost= 0.036869477
Epoch: 0296 cost= 0.040726401
Epoch: 0297 cost= 0.039544348
Epoch: 0298 cost= 0.037295420
Epoch: 0299 cost= 0.037431777
Epoch: 0300 cost= 0.038632207
Epoch: 0301 cost= 0.039926834
Epoch: 0302 cost= 0.042017065
Epoch: 0303 cost= 0.038728036
Epoch: 0304 cost= 0.036148731
Epoch: 0305 cost= 0.038415771
Epoch: 0306 cost= 0.038599268
Epoch: 0307 cost= 0.038349371
Epoch: 0308 cost= 0.038498841
Epoch: 0309 cost= 0.039366897
Epoch: 0310 cost= 0.040933795
Epoch: 0311 cost= 0.039207567
Epoch: 0312 cost= 0.038978290
Epoch: 0313 cost= 0.039327886
Epoch: 0314 cost= 0.036666501
Epoch: 0315 cost= 0.038253464
Epoch: 0316 cost= 0.038309246
Epoch: 0317 cost= 0.039048184
Epoch: 0318 cost= 0.039137822
```

```
Epoch: 0319 cost= 0.036756303
Epoch: 0320 cost= 0.039521836
Epoch: 0321 cost= 0.039386891
Epoch: 0322 cost= 0.037910640
Epoch: 0323 cost= 0.040041991
Epoch: 0324 cost= 0.037658975
Epoch: 0325 cost= 0.038087912
Epoch: 0326 cost= 0.038438506
Epoch: 0327 cost= 0.037110213
Epoch: 0328 cost= 0.038784984
Epoch: 0329 cost= 0.037822396
Epoch: 0330 cost= 0.039218914
Epoch: 0331 cost= 0.037884936
Epoch: 0332 cost= 0.039540432
Epoch: 0333 cost= 0.037342943
Epoch: 0334 cost= 0.038484279
Epoch: 0335 cost= 0.039126839
Epoch: 0336 cost= 0.037860602
Epoch: 0337 cost= 0.037931409
Epoch: 0338 cost= 0.038894929
Epoch: 0339 cost= 0.039075047
Epoch: 0340 cost= 0.037540466
Epoch: 0341 cost= 0.039570361
Epoch: 0342 cost= 0.040042695
```

```
Epoch: 0343 cost= 0.039583035
Epoch: 0344 cost= 0.038973574
Epoch: 0345 cost= 0.041876502
Epoch: 0346 cost= 0.038585268
Epoch: 0347 cost= 0.037668772
Epoch: 0348 cost= 0.038004301
Epoch: 0349 cost= 0.037910108
Epoch: 0350 cost= 0.040034562
Epoch: 0351 cost= 0.036887649
Epoch: 0352 cost= 0.036944885
Epoch: 0353 cost= 0.037789363
Epoch: 0354 cost= 0.041484542
Epoch: 0355 cost= 0.038769193
Epoch: 0356 cost= 0.036664374
Epoch: 0357 cost= 0.039602768
Epoch: 0358 cost= 0.037118655
Epoch: 0359 cost= 0.038780242
Epoch: 0360 cost= 0.036137670
Epoch: 0361 cost= 0.039449815
Epoch: 0362 cost= 0.039903022
Epoch: 0363 cost= 0.036769148
Epoch: 0364 cost= 0.038278807
Epoch: 0365 cost= 0.040485226
Epoch: 0366 cost= 0.037631478
```

```
Epoch: 0367 cost= 0.039138921
Epoch: 0368 cost= 0.037216030
Epoch: 0369 cost= 0.037832834
Epoch: 0370 cost= 0.039287914
Epoch: 0371 cost= 0.038763504
Epoch: 0372 cost= 0.038121335
Epoch: 0373 cost= 0.039229430
Epoch: 0374 cost= 0.040493567
Epoch: 0375 cost= 0.037037391
Epoch: 0376 cost= 0.036016762
Epoch: 0377 cost= 0.037982721
Epoch: 0378 cost= 0.035382170
Epoch: 0379 cost= 0.039131526
Epoch: 0380 cost= 0.039800331
Epoch: 0381 cost= 0.036959209
Epoch: 0382 cost= 0.037720937
Epoch: 0383 cost= 0.038115628
Epoch: 0384 cost= 0.037957840
Epoch: 0385 cost= 0.038087182
Epoch: 0386 cost= 0.036866333
Epoch: 0387 cost= 0.038358916
Epoch: 0388 cost= 0.038467087
Epoch: 0389 cost= 0.039294492
Epoch: 0390 cost= 0.039077453
```

```
Epoch: 0391 cost= 0.036941197
Epoch: 0392 cost= 0.037003078
Epoch: 0393 cost= 0.039440922
Epoch: 0394 cost= 0.039015107
Epoch: 0395 cost= 0.038274940
Epoch: 0396 cost= 0.036829535
Epoch: 0397 cost= 0.038638331
Epoch: 0398 cost= 0.035263594
Epoch: 0399 cost= 0.036469646
Epoch: 0400 cost= 0.038301155
Epoch: 0401 cost= 0.037282649
Epoch: 0402 cost= 0.038544785
Epoch: 0403 cost= 0.038084671
Epoch: 0404 cost= 0.038545597
Epoch: 0405 cost= 0.036174379
Epoch: 0406 cost= 0.037837043
Epoch: 0407 cost= 0.036964703
Epoch: 0408 cost= 0.037833102
Epoch: 0409 cost= 0.039467737
Epoch: 0410 cost= 0.037009571
Epoch: 0411 cost= 0.037448496
Epoch: 0412 cost= 0.037981704
Epoch: 0413 cost= 0.038291547
Epoch: 0414 cost= 0.038592514
```

```
Epoch: 0415 cost= 0.037603784
Epoch: 0416 cost= 0.034890059
Epoch: 0417 cost= 0.039630432
Epoch: 0418 cost= 0.037316088
Epoch: 0419 cost= 0.036016136
Epoch: 0420 cost= 0.038872816
Epoch: 0421 cost= 0.036852501
Epoch: 0422 cost= 0.039271563
Epoch: 0423 cost= 0.037946153
Epoch: 0424 cost= 0.038473062
Epoch: 0425 cost= 0.036770556
Epoch: 0426 cost= 0.035667568
Epoch: 0427 cost= 0.035779756
Epoch: 0428 cost= 0.037211224
Epoch: 0429 cost= 0.038226906
Epoch: 0430 cost= 0.038393229
Epoch: 0431 cost= 0.036946628
Epoch: 0432 cost= 0.038630396
Epoch: 0433 cost= 0.035312094
Epoch: 0434 cost= 0.038144790
Epoch: 0435 cost= 0.038759850
Epoch: 0436 cost= 0.036241021
Epoch: 0437 cost= 0.038074125
Epoch: 0438 cost= 0.037358366
```

```
Epoch: 0439 cost= 0.038119011
Epoch: 0440 cost= 0.038309246
Epoch: 0441 cost= 0.037010252
Epoch: 0442 cost= 0.037383988
Epoch: 0443 cost= 0.035717834
Epoch: 0444 cost= 0.036838185
Epoch: 0445 cost= 0.037393544
Epoch: 0446 cost= 0.037866056
Epoch: 0447 cost= 0.038717370
Epoch: 0448 cost= 0.037965771
Epoch: 0449 cost= 0.040631238
Epoch: 0450 cost= 0.037767489
Epoch: 0451 cost= 0.037192158
Epoch: 0452 cost= 0.038363636
Epoch: 0453 cost= 0.038586326
Epoch: 0454 cost= 0.038449299
Epoch: 0455 cost= 0.038022004
Epoch: 0456 cost= 0.037733566
Epoch: 0457 cost= 0.037374213
Epoch: 0458 cost= 0.038683124
Epoch: 0459 cost= 0.038055182
Epoch: 0460 cost= 0.035736416
Epoch: 0461 cost= 0.040266737
Epoch: 0462 cost= 0.037242562
```

```
Epoch: 0463 cost= 0.038278237
Epoch: 0464 cost= 0.036092009
Epoch: 0465 cost= 0.037418701
Epoch: 0466 cost= 0.039315872
Epoch: 0467 cost= 0.036728751
Epoch: 0468 cost= 0.039794907
Epoch: 0469 cost= 0.036895111
Epoch: 0470 cost= 0.035794210
Epoch: 0471 cost= 0.039297570
Epoch: 0472 cost= 0.038945373
Epoch: 0473 cost= 0.036949825
Epoch: 0474 cost= 0.039042760
Epoch: 0475 cost= 0.037949346
Epoch: 0476 cost= 0.036454625
Epoch: 0477 cost= 0.038524218
Epoch: 0478 cost= 0.039366573
Epoch: 0479 cost= 0.037310757
Epoch: 0480 cost= 0.039485626
Epoch: 0481 cost= 0.037261389
Epoch: 0482 cost= 0.039463438
Epoch: 0483 cost= 0.037574168
Epoch: 0484 cost= 0.037906069
Epoch: 0485 cost= 0.036122549
Epoch: 0486 cost= 0.039358653
```

```
Epoch: 0487 cost= 0.035723612
Epoch: 0488 cost= 0.039128259
Epoch: 0489 cost= 0.037959035
Epoch: 0490 cost= 0.037107974
Epoch: 0491 cost= 0.037353948
Epoch: 0492 cost= 0.036071420
Epoch: 0493 cost= 0.036606926
Epoch: 0494 cost= 0.038076766
Epoch: 0495 cost= 0.038540930
Epoch: 0496 cost= 0.038144398
Epoch: 0497 cost= 0.038173478
Epoch: 0498 cost= 0.040350460
Epoch: 0499 cost= 0.037669037
Epoch: 0500 cost= 0.037299618
Epoch: 0501 cost= 0.038077410
Epoch: 0502 cost= 0.036994163
Epoch: 0503 cost= 0.036755893
Epoch: 0504 cost= 0.036784723
Epoch: 0505 cost= 0.036891818
Epoch: 0506 cost= 0.038031790
Epoch: 0507 cost= 0.037032060
Epoch: 0508 cost= 0.038085096
Epoch: 0509 cost= 0.039037608
Epoch: 0510 cost= 0.038967948
```

```
Epoch: 0511 cost= 0.038975991
Epoch: 0512 cost= 0.036330968
Epoch: 0513 cost= 0.037228201
Epoch: 0514 cost= 0.039215311
Epoch: 0515 cost= 0.036186237
Epoch: 0516 cost= 0.038780864
Epoch: 0517 cost= 0.036394466
Epoch: 0518 cost= 0.038119789
Epoch: 0519 cost= 0.037928451
Epoch: 0520 cost= 0.035893969
Epoch: 0521 cost= 0.037126243
Epoch: 0522 cost= 0.038144443
Epoch: 0523 cost= 0.038741492
Epoch: 0524 cost= 0.037345264
Epoch: 0525 cost= 0.036988344
Epoch: 0526 cost= 0.038393468
Epoch: 0527 cost= 0.037478089
Epoch: 0528 cost= 0.038476162
Epoch: 0529 cost= 0.041259553
Epoch: 0530 cost= 0.039402105
Epoch: 0531 cost= 0.038196266
Epoch: 0532 cost= 0.035480399
Epoch: 0533 cost= 0.038065955
Epoch: 0534 cost= 0.037894562
```

```
Epoch: 0535 cost= 0.039023831
Epoch: 0536 cost= 0.036726251
Epoch: 0537 cost= 0.039010614
Epoch: 0538 cost= 0.037992179
Epoch: 0539 cost= 0.036718238
Epoch: 0540 cost= 0.036949947
Epoch: 0541 cost= 0.036487471
Epoch: 0542 cost= 0.037370224
Epoch: 0543 cost= 0.036299892
Epoch: 0544 cost= 0.038790960
Epoch: 0545 cost= 0.037941806
Epoch: 0546 cost= 0.038446233
Epoch: 0547 cost= 0.037698738
Epoch: 0548 cost= 0.038258281
Epoch: 0549 cost= 0.038946137
Epoch: 0550 cost= 0.037256617
Epoch: 0551 cost= 0.037638288
Epoch: 0552 cost= 0.035932228
Epoch: 0553 cost= 0.035030924
Epoch: 0554 cost= 0.039590042
Epoch: 0555 cost= 0.036478378
Epoch: 0556 cost= 0.039673045
Epoch: 0557 cost= 0.038266283
Epoch: 0558 cost= 0.037456956
```

```
Epoch: 0559 cost= 0.036765493
Epoch: 0560 cost= 0.037676726
Epoch: 0561 cost= 0.036510024
Epoch: 0562 cost= 0.036079459
Epoch: 0563 cost= 0.037684228
Epoch: 0564 cost= 0.038672000
Epoch: 0565 cost= 0.038604833
Epoch: 0566 cost= 0.036668099
Epoch: 0567 cost= 0.036043186
Epoch: 0568 cost= 0.036477640
Epoch: 0569 cost= 0.037315413
Epoch: 0570 cost= 0.036760908
Epoch: 0571 cost= 0.038623553
Epoch: 0572 cost= 0.036937281
Epoch: 0573 cost= 0.036943328
Epoch: 0574 cost= 0.036250003
Epoch: 0575 cost= 0.038492840
Epoch: 0576 cost= 0.038839791
Epoch: 0577 cost= 0.036350992
Epoch: 0578 cost= 0.036600541
Epoch: 0579 cost= 0.036885452
Epoch: 0580 cost= 0.035433210
Epoch: 0581 cost= 0.036732364
Epoch: 0582 cost= 0.039150208
```

```
Epoch: 0583 cost= 0.036700111
Epoch: 0584 cost= 0.036905713
Epoch: 0585 cost= 0.038123295
Epoch: 0586 cost= 0.039144240
Epoch: 0587 cost= 0.036918160
Epoch: 0588 cost= 0.038233191
Epoch: 0589 cost= 0.039132647
Epoch: 0590 cost= 0.037608121
Epoch: 0591 cost= 0.038423736
Epoch: 0592 cost= 0.036397502
Epoch: 0593 cost= 0.035397932
Epoch: 0594 cost= 0.039612170
Epoch: 0595 cost= 0.036543973
Epoch: 0596 cost= 0.036041040
Epoch: 0597 cost= 0.038696531
Epoch: 0598 cost= 0.036763616
Epoch: 0599 cost= 0.037255809
Epoch: 0600 cost= 0.036165696
Epoch: 0601 cost= 0.036232114
Epoch: 0602 cost= 0.037666380
Epoch: 0603 cost= 0.036954749
Epoch: 0604 cost= 0.038896102
Epoch: 0605 cost= 0.037388474
Epoch: 0606 cost= 0.039001994
```

```
Epoch: 0607 cost= 0.038368192
Epoch: 0608 cost= 0.037670355
Epoch: 0609 cost= 0.036586713
Epoch: 0610 cost= 0.038263366
Epoch: 0611 cost= 0.038348056
Epoch: 0612 cost= 0.041194644
Epoch: 0613 cost= 0.037885230
Epoch: 0614 cost= 0.037696313
Epoch: 0615 cost= 0.039159261
Epoch: 0616 cost= 0.035835728
Epoch: 0617 cost= 0.038007170
Epoch: 0618 cost= 0.037928104
Epoch: 0619 cost= 0.037296779
Epoch: 0620 cost= 0.038128063
Epoch: 0621 cost= 0.038458619
Epoch: 0622 cost= 0.038347214
Epoch: 0623 cost= 0.039466079
Epoch: 0624 cost= 0.038710501
Epoch: 0625 cost= 0.039700408
Epoch: 0626 cost= 0.037684824
Epoch: 0627 cost= 0.036663599
Epoch: 0628 cost= 0.039929744
Epoch: 0629 cost= 0.037893336
Epoch: 0630 cost= 0.037733603
```

```
Epoch: 0631 cost= 0.041343037
Epoch: 0632 cost= 0.036294445
Epoch: 0633 cost= 0.038300484
Epoch: 0634 cost= 0.036845148
Epoch: 0635 cost= 0.036650803
Epoch: 0636 cost= 0.037922207
Epoch: 0637 cost= 0.038278934
Epoch: 0638 cost= 0.039023276
Epoch: 0639 cost= 0.038101867
Epoch: 0640 cost= 0.035083838
Epoch: 0641 cost= 0.037090566
Epoch: 0642 cost= 0.036370527
Epoch: 0643 cost= 0.037471522
Epoch: 0644 cost= 0.037083805
Epoch: 0645 cost= 0.035551786
Epoch: 0646 cost= 0.038292207
Epoch: 0647 cost= 0.035725422
Epoch: 0648 cost= 0.038725484
Epoch: 0649 cost= 0.037043154
Epoch: 0650 cost= 0.036080211
Epoch: 0651 cost= 0.038498953
Epoch: 0652 cost= 0.036676534
Epoch: 0653 cost= 0.036481258
Epoch: 0654 cost= 0.038568985
```

```
Epoch: 0655 cost= 0.038611621
Epoch: 0656 cost= 0.037878700
Epoch: 0657 cost= 0.037242267
Epoch: 0658 cost= 0.037851002
Epoch: 0659 cost= 0.035362702
Epoch: 0660 cost= 0.038542837
Epoch: 0661 cost= 0.038318526
Epoch: 0662 cost= 0.038715910
Epoch: 0663 cost= 0.038087890
Epoch: 0664 cost= 0.034898598
Epoch: 0665 cost= 0.037280317
Epoch: 0666 cost= 0.036334231
Epoch: 0667 cost= 0.036180459
Epoch: 0668 cost= 0.038114730
Epoch: 0669 cost= 0.038432471
Epoch: 0670 cost= 0.037961707
Epoch: 0671 cost= 0.037465483
Epoch: 0672 cost= 0.037390914
Epoch: 0673 cost= 0.038004443
Epoch: 0674 cost= 0.038046516
Epoch: 0675 cost= 0.037052222
Epoch: 0676 cost= 0.034746252
Epoch: 0677 cost= 0.037392080
Epoch: 0678 cost= 0.035866726
```

```
Epoch: 0679 cost= 0.038754813
Epoch: 0680 cost= 0.038651474
Epoch: 0681 cost= 0.037425488
Epoch: 0682 cost= 0.036336426
Epoch: 0683 cost= 0.039735831
Epoch: 0684 cost= 0.037024740
Epoch: 0685 cost= 0.037849568
Epoch: 0686 cost= 0.037376106
Epoch: 0687 cost= 0.034235749
Epoch: 0688 cost= 0.037664987
Epoch: 0689 cost= 0.038597781
Epoch: 0690 cost= 0.038741577
Epoch: 0691 cost= 0.037535597
Epoch: 0692 cost= 0.038631033
Epoch: 0693 cost= 0.037248325
Epoch: 0694 cost= 0.036989193
Epoch: 0695 cost= 0.037188973
Epoch: 0696 cost= 0.037161876
Epoch: 0697 cost= 0.038268175
Epoch: 0698 cost= 0.039240751
Epoch: 0699 cost= 0.037889849
Epoch: 0700 cost= 0.035204671
Epoch: 0701 cost= 0.035923988
Epoch: 0702 cost= 0.039265126
```

```
Epoch: 0703 cost= 0.036295258
Epoch: 0704 cost= 0.037304312
Epoch: 0705 cost= 0.038299430
Epoch: 0706 cost= 0.038618386
Epoch: 0707 cost= 0.038381517
Epoch: 0708 cost= 0.036014091
Epoch: 0709 cost= 0.036640786
Epoch: 0710 cost= 0.037771698
Epoch: 0711 cost= 0.038837794
Epoch: 0712 cost= 0.036928557
Epoch: 0713 cost= 0.036581744
Epoch: 0714 cost= 0.035292678
Epoch: 0715 cost= 0.039046325
Epoch: 0716 cost= 0.038340580
Epoch: 0717 cost= 0.037160106
Epoch: 0718 cost= 0.037485316
Epoch: 0719 cost= 0.039490003
Epoch: 0720 cost= 0.032359898
Epoch: 0721 cost= 0.037032206
Epoch: 0722 cost= 0.034827895
Epoch: 0723 cost= 0.035746984
Epoch: 0724 cost= 0.039166916
Epoch: 0725 cost= 0.034543723
Epoch: 0726 cost= 0.037565593
```

```
Epoch: 0727 cost= 0.035583694
Epoch: 0728 cost= 0.035670057
Epoch: 0729 cost= 0.036838710
Epoch: 0730 cost= 0.036442757
Epoch: 0731 cost= 0.036050577
Epoch: 0732 cost= 0.035600230
Epoch: 0733 cost= 0.037871853
Epoch: 0734 cost= 0.036568038
Epoch: 0735 cost= 0.036441837
Epoch: 0736 cost= 0.036462575
Epoch: 0737 cost= 0.034271926
Epoch: 0738 cost= 0.036482360
Epoch: 0739 cost= 0.036183983
Epoch: 0740 cost= 0.035301935
Epoch: 0741 cost= 0.034399725
Epoch: 0742 cost= 0.035510782
Epoch: 0743 cost= 0.037181366
Epoch: 0744 cost= 0.038555723
Epoch: 0745 cost= 0.034110766
Epoch: 0746 cost= 0.033525042
Epoch: 0747 cost= 0.036133252
Epoch: 0748 cost= 0.036925670
Epoch: 0749 cost= 0.035789557
Epoch: 0750 cost= 0.034750540
```

```
Epoch: 0751 cost= 0.036677424
Epoch: 0752 cost= 0.036272768
Epoch: 0753 cost= 0.036030289
Epoch: 0754 cost= 0.037304211
Epoch: 0755 cost= 0.035193790
Epoch: 0756 cost= 0.035750654
Epoch: 0757 cost= 0.035016682
Epoch: 0758 cost= 0.034382023
Epoch: 0759 cost= 0.036861178
Epoch: 0760 cost= 0.035555426
Epoch: 0761 cost= 0.037039999
Epoch: 0762 cost= 0.036523614
Epoch: 0763 cost= 0.035172544
Epoch: 0764 cost= 0.035217173
Epoch: 0765 cost= 0.034780961
Epoch: 0766 cost= 0.036000669
Epoch: 0767 cost= 0.036752116
Epoch: 0768 cost= 0.037221640
Epoch: 0769 cost= 0.035981525
Epoch: 0770 cost= 0.034373160
Epoch: 0771 cost= 0.035575286
Epoch: 0772 cost= 0.036398184
Epoch: 0773 cost= 0.036041468
Epoch: 0774 cost= 0.034958966
```

```
Epoch: 0775 cost= 0.035003126
Epoch: 0776 cost= 0.036157820
Epoch: 0777 cost= 0.036893986
Epoch: 0778 cost= 0.037833519
Epoch: 0779 cost= 0.036361713
Epoch: 0780 cost= 0.037892058
Epoch: 0781 cost= 0.036332220
Epoch: 0782 cost= 0.034340460
Epoch: 0783 cost= 0.035059813
Epoch: 0784 cost= 0.037509188
Epoch: 0785 cost= 0.035066780
Epoch: 0786 cost= 0.037041597
Epoch: 0787 cost= 0.035957206
Epoch: 0788 cost= 0.037631620
Epoch: 0789 cost= 0.036931366
Epoch: 0790 cost= 0.036112513
Epoch: 0791 cost= 0.038406577
Epoch: 0792 cost= 0.036076643
Epoch: 0793 cost= 0.035847031
Epoch: 0794 cost= 0.036853366
Epoch: 0795 cost= 0.037194971
Epoch: 0796 cost= 0.037725240
Epoch: 0797 cost= 0.036741644
Epoch: 0798 cost= 0.035962868
```

```
Epoch: 0799 cost= 0.034223113
Epoch: 0800 cost= 0.034720033
Epoch: 0801 cost= 0.037158556
Epoch: 0802 cost= 0.037137646
Epoch: 0803 cost= 0.034579534
Epoch: 0804 cost= 0.037046015
Epoch: 0805 cost= 0.036190920
Epoch: 0806 cost= 0.035871480
Epoch: 0807 cost= 0.036448490
Epoch: 0808 cost= 0.036106259
Epoch: 0809 cost= 0.037163731
Epoch: 0810 cost= 0.035905547
Epoch: 0811 cost= 0.035496451
Epoch: 0812 cost= 0.037571181
Epoch: 0813 cost= 0.038375407
Epoch: 0814 cost= 0.036281679
Epoch: 0815 cost= 0.036267947
Epoch: 0816 cost= 0.035782732
Epoch: 0817 cost= 0.035905574
Epoch: 0818 cost= 0.035623346
Epoch: 0819 cost= 0.036356714
Epoch: 0820 cost= 0.035000227
Epoch: 0821 cost= 0.037136767
Epoch: 0822 cost= 0.035367172
```

```
Epoch: 0823 cost= 0.035295222
Epoch: 0824 cost= 0.036287446
Epoch: 0825 cost= 0.035493072
Epoch: 0826 cost= 0.036175001
Epoch: 0827 cost= 0.035938680
Epoch: 0828 cost= 0.036081396
Epoch: 0829 cost= 0.035651386
Epoch: 0830 cost= 0.034250021
Epoch: 0831 cost= 0.036995571
Epoch: 0832 cost= 0.036744576
Epoch: 0833 cost= 0.036565322
Epoch: 0834 cost= 0.035713382
Epoch: 0835 cost= 0.034124263
Epoch: 0836 cost= 0.034423873
Epoch: 0837 cost= 0.036077861
Epoch: 0838 cost= 0.035131153
Epoch: 0839 cost= 0.035555787
Epoch: 0840 cost= 0.037777156
Epoch: 0841 cost= 0.036984321
Epoch: 0842 cost= 0.036262508
Epoch: 0843 cost= 0.035174653
Epoch: 0844 cost= 0.035690658
Epoch: 0845 cost= 0.035096362
Epoch: 0846 cost= 0.037135553
```

```
Epoch: 0847 cost= 0.036291428
Epoch: 0848 cost= 0.035619460
Epoch: 0849 cost= 0.036326475
Epoch: 0850 cost= 0.036837403
Epoch: 0851 cost= 0.035854448
Epoch: 0852 cost= 0.036797583
Epoch: 0853 cost= 0.035378795
Epoch: 0854 cost= 0.036590144
Epoch: 0855 cost= 0.035870269
Epoch: 0856 cost= 0.037559219
Epoch: 0857 cost= 0.037204772
Epoch: 0858 cost= 0.037408747
Epoch: 0859 cost= 0.035035703
Epoch: 0860 cost= 0.036710162
Epoch: 0861 cost= 0.037201554
Epoch: 0862 cost= 0.038812224
Epoch: 0863 cost= 0.035392575
Epoch: 0864 cost= 0.037394281
Epoch: 0865 cost= 0.035818137
Epoch: 0866 cost= 0.036861703
Epoch: 0867 cost= 0.036028307
Epoch: 0868 cost= 0.034166906
Epoch: 0869 cost= 0.036034454
Epoch: 0870 cost= 0.037349116
```

```
Epoch: 0871 cost= 0.036801424
Epoch: 0872 cost= 0.036925979
Epoch: 0873 cost= 0.036908586
Epoch: 0874 cost= 0.037359774
Epoch: 0875 cost= 0.036158755
Epoch: 0876 cost= 0.034352239
Epoch: 0877 cost= 0.036904167
Epoch: 0878 cost= 0.034770723
Epoch: 0879 cost= 0.034689527
Epoch: 0880 cost= 0.037266698
Epoch: 0881 cost= 0.035806619
Epoch: 0882 cost= 0.036252305
Epoch: 0883 cost= 0.036498185
Epoch: 0884 cost= 0.037100703
Epoch: 0885 cost= 0.034968719
Epoch: 0886 cost= 0.034601398
Epoch: 0887 cost= 0.033714235
Epoch: 0888 cost= 0.034611743
Epoch: 0889 cost= 0.037054099
Epoch: 0890 cost= 0.038249053
Epoch: 0891 cost= 0.036329221
Epoch: 0892 cost= 0.036539424
Epoch: 0893 cost= 0.034662966
Epoch: 0894 cost= 0.035420135
```

```
Epoch: 0895 cost= 0.036542762
Epoch: 0896 cost= 0.034802418
Epoch: 0897 cost= 0.035692453
Epoch: 0898 cost= 0.036106225
Epoch: 0899 cost= 0.036644168
Epoch: 0900 cost= 0.037085999
Epoch: 0901 cost= 0.036062658
Epoch: 0902 cost= 0.036485102
Epoch: 0903 cost= 0.036343545
Epoch: 0904 cost= 0.038216643
Epoch: 0905 cost= 0.034393549
Epoch: 0906 cost= 0.037193161
Epoch: 0907 cost= 0.036614489
Epoch: 0908 cost= 0.036751170
Epoch: 0909 cost= 0.036419697
Epoch: 0910 cost= 0.034783538
Epoch: 0911 cost= 0.036934290
Epoch: 0912 cost= 0.037461422
Epoch: 0913 cost= 0.034671206
Epoch: 0914 cost= 0.035941094
Epoch: 0915 cost= 0.035510886
Epoch: 0916 cost= 0.036750875
Epoch: 0917 cost= 0.035331707
Epoch: 0918 cost= 0.035992470
```

```
Epoch: 0919 cost= 0.034839205
Epoch: 0920 cost= 0.034549408
Epoch: 0921 cost= 0.036695268
Epoch: 0922 cost= 0.037579689
Epoch: 0923 cost= 0.036841094
Epoch: 0924 cost= 0.036146779
Epoch: 0925 cost= 0.035829302
Epoch: 0926 cost= 0.037442274
Epoch: 0927 cost= 0.035895519
Epoch: 0928 cost= 0.034337427
Epoch: 0929 cost= 0.035740353
Epoch: 0930 cost= 0.035704367
Epoch: 0931 cost= 0.035200581
Epoch: 0932 cost= 0.035011590
Epoch: 0933 cost= 0.036530841
Epoch: 0934 cost= 0.036721379
Epoch: 0935 cost= 0.035517879
Epoch: 0936 cost= 0.037527550
Epoch: 0937 cost= 0.037380558
Epoch: 0938 cost= 0.034444194
Epoch: 0939 cost= 0.035002690
Epoch: 0940 cost= 0.036609504
Epoch: 0941 cost= 0.036371853
Epoch: 0942 cost= 0.035179183
```

```
Epoch: 0943 cost= 0.035303004
Epoch: 0944 cost= 0.034765497
Epoch: 0945 cost= 0.034463115
Epoch: 0946 cost= 0.036678642
Epoch: 0947 cost= 0.035720393
Epoch: 0948 cost= 0.037276067
Epoch: 0949 cost= 0.034878165
Epoch: 0950 cost= 0.035574824
Epoch: 0951 cost= 0.036477804
Epoch: 0952 cost= 0.035040777
Epoch: 0953 cost= 0.035904795
Epoch: 0954 cost= 0.034427181
Epoch: 0955 cost= 0.035529524
Epoch: 0956 cost= 0.035098858
Epoch: 0957 cost= 0.035795275
Epoch: 0958 cost= 0.034447759
Epoch: 0959 cost= 0.036126319
Epoch: 0960 cost= 0.036341932
Epoch: 0961 cost= 0.036912840
Epoch: 0962 cost= 0.034882296
Epoch: 0963 cost= 0.034169581
Epoch: 0964 cost= 0.035985637
Epoch: 0965 cost= 0.036060099
Epoch: 0966 cost= 0.037199143
```

```
Epoch: 0967 cost= 0.036237825
Epoch: 0968 cost= 0.037601046
Epoch: 0969 cost= 0.036365479
Epoch: 0970 cost= 0.035518251
Epoch: 0971 cost= 0.035373304
Epoch: 0972 cost= 0.035524160
Epoch: 0973 cost= 0.035556812
Epoch: 0974 cost= 0.036183532
Epoch: 0975 cost= 0.037678044
Epoch: 0976 cost= 0.035631984
Epoch: 0977 cost= 0.036598831
Epoch: 0978 cost= 0.034648772
Epoch: 0979 cost= 0.035457749
Epoch: 0980 cost= 0.034802441
Epoch: 0981 cost= 0.032705601
Epoch: 0982 cost= 0.038338851
Epoch: 0983 cost= 0.036418837
Epoch: 0984 cost= 0.036079474
Epoch: 0985 cost= 0.036703520
Epoch: 0986 cost= 0.034289747
Epoch: 0987 cost= 0.035295084
Epoch: 0988 cost= 0.032195881
Epoch: 0989 cost= 0.036049578
Epoch: 0990 cost= 0.036346126
```

```
Epoch: 0991 cost= 0.035440702
Epoch: 0992 cost= 0.034266379
Epoch: 0993 cost= 0.037946604
Epoch: 0994 cost= 0.035539210
Epoch: 0995 cost= 0.037728809
Epoch: 0996 cost= 0.036619779
Epoch: 0997 cost= 0.036140107
Epoch: 0998 cost= 0.036667503
Epoch: 0999 cost= 0.034429125
Epoch: 1000 cost= 0.035310537
Epoch: 1001 cost= 0.035523672
Epoch: 1002 cost= 0.035358094
Epoch: 1003 cost= 0.034630042
Epoch: 1004 cost= 0.035271950
Epoch: 1005 cost= 0.037185840
Epoch: 1006 cost= 0.034666367
Epoch: 1007 cost= 0.035111733
Epoch: 1008 cost= 0.036805604
Epoch: 1009 cost= 0.036560826
Epoch: 1010 cost= 0.035741858
Epoch: 1011 cost= 0.036400784
Epoch: 1012 cost= 0.034555737
Epoch: 1013 cost= 0.034357376
Epoch: 1014 cost= 0.035857540
```

```
Epoch: 1015 cost= 0.035186686
Epoch: 1016 cost= 0.036692090
Epoch: 1017 cost= 0.035190053
Epoch: 1018 cost= 0.037927900
Epoch: 1019 cost= 0.036225460
Epoch: 1020 cost= 0.037228175
Epoch: 1021 cost= 0.037813451
Epoch: 1022 cost= 0.037000764
Epoch: 1023 cost= 0.035783194
Epoch: 1024 cost= 0.037270304
Epoch: 1025 cost= 0.036675196
Epoch: 1026 cost= 0.037891481
Epoch: 1027 cost= 0.035147425
Epoch: 1028 cost= 0.036616489
Epoch: 1029 cost= 0.034533810
Epoch: 1030 cost= 0.038190957
Epoch: 1031 cost= 0.034920357
Epoch: 1032 cost= 0.036467370
Epoch: 1033 cost= 0.036359709
Epoch: 1034 cost= 0.034485787
Epoch: 1035 cost= 0.035664521
Epoch: 1036 cost= 0.036270902
Epoch: 1037 cost= 0.036019176
Epoch: 1038 cost= 0.034294538
```

```
Epoch: 1039 cost= 0.034813415
Epoch: 1040 cost= 0.034061626
Epoch: 1041 cost= 0.034360897
Epoch: 1042 cost= 0.036906507
Epoch: 1043 cost= 0.036619429
Epoch: 1044 cost= 0.034562312
Epoch: 1045 cost= 0.035474285
Epoch: 1046 cost= 0.036114197
Epoch: 1047 cost= 0.035961203
Epoch: 1048 cost= 0.034247074
Epoch: 1049 cost= 0.036790460
Epoch: 1050 cost= 0.036677692
Epoch: 1051 cost= 0.034008343
Epoch: 1052 cost= 0.034968186
Epoch: 1053 cost= 0.035191651
Epoch: 1054 cost= 0.035269979
Epoch: 1055 cost= 0.035190333
Epoch: 1056 cost= 0.035602413
Epoch: 1057 cost= 0.037495703
Epoch: 1058 cost= 0.038298272
Epoch: 1059 cost= 0.036873862
Epoch: 1060 cost= 0.035085883
Epoch: 1061 cost= 0.035434458
Epoch: 1062 cost= 0.036798049
```

```
Epoch: 1063 cost= 0.036483914
Epoch: 1064 cost= 0.036318235
Epoch: 1065 cost= 0.036237370
Epoch: 1066 cost= 0.034468863
Epoch: 1067 cost= 0.034809012
Epoch: 1068 cost= 0.036171112
Epoch: 1069 cost= 0.034243699
Epoch: 1070 cost= 0.035497312
Epoch: 1071 cost= 0.035196461
Epoch: 1072 cost= 0.036906146
Epoch: 1073 cost= 0.034401454
Epoch: 1074 cost= 0.035835706
Epoch: 1075 cost= 0.035985056
Epoch: 1076 cost= 0.035455134
Epoch: 1077 cost= 0.035221707
Epoch: 1078 cost= 0.035857070
Epoch: 1079 cost= 0.034929693
Epoch: 1080 cost= 0.035354976
Epoch: 1081 cost= 0.036696009
Epoch: 1082 cost= 0.035535298
Epoch: 1083 cost= 0.036394965
Epoch: 1084 cost= 0.036748849
Epoch: 1085 cost= 0.036635876
Epoch: 1086 cost= 0.036664609
```

```
Epoch: 1087 cost= 0.035044111
Epoch: 1088 cost= 0.035525393
Epoch: 1089 cost= 0.038343973
Epoch: 1090 cost= 0.035844475
Epoch: 1091 cost= 0.037030730
Epoch: 1092 cost= 0.036237236
Epoch: 1093 cost= 0.036311749
Epoch: 1094 cost= 0.036372375
Epoch: 1095 cost= 0.034467302
Epoch: 1096 cost= 0.037885699
Epoch: 1097 cost= 0.035878081
Epoch: 1098 cost= 0.036605671
Epoch: 1099 cost= 0.037968814
Epoch: 1100 cost= 0.034722421
Epoch: 1101 cost= 0.033636853
Epoch: 1102 cost= 0.036870610
Epoch: 1103 cost= 0.036728863
Epoch: 1104 cost= 0.035531938
Epoch: 1105 cost= 0.036546107
Epoch: 1106 cost= 0.037493277
Epoch: 1107 cost= 0.036692593
Epoch: 1108 cost= 0.034690987
Epoch: 1109 cost= 0.037808098
Epoch: 1110 cost= 0.037404899
```

```
Epoch: 1111 cost= 0.035179764
Epoch: 1112 cost= 0.036020946
Epoch: 1113 cost= 0.035167497
Epoch: 1114 cost= 0.036855694
Epoch: 1115 cost= 0.036191635
Epoch: 1116 cost= 0.034848168
Epoch: 1117 cost= 0.036570340
Epoch: 1118 cost= 0.036977947
Epoch: 1119 cost= 0.035938192
Epoch: 1120 cost= 0.037116684
Epoch: 1121 cost= 0.036656432
Epoch: 1122 cost= 0.035016932
Epoch: 1123 cost= 0.035940904
Epoch: 1124 cost= 0.035355154
Epoch: 1125 cost= 0.033302765
Epoch: 1126 cost= 0.037247464
Epoch: 1127 cost= 0.039408870
Epoch: 1128 cost= 0.035847988
Epoch: 1129 cost= 0.036446609
Epoch: 1130 cost= 0.036069889
Epoch: 1131 cost= 0.036529429
Epoch: 1132 cost= 0.034674104
Epoch: 1133 cost= 0.035263449
Epoch: 1134 cost= 0.036862258
```

```
Epoch: 1135 cost= 0.035953395
Epoch: 1136 cost= 0.037665792
Epoch: 1137 cost= 0.037929580
Epoch: 1138 cost= 0.036241051
Epoch: 1139 cost= 0.036025621
Epoch: 1140 cost= 0.036384996
Epoch: 1141 cost= 0.034473550
Epoch: 1142 cost= 0.035862591
Epoch: 1143 cost= 0.033662491
Epoch: 1144 cost= 0.036772206
Epoch: 1145 cost= 0.037546877
Epoch: 1146 cost= 0.036980420
Epoch: 1147 cost= 0.037506983
Epoch: 1148 cost= 0.035483532
Epoch: 1149 cost= 0.034000687
Epoch: 1150 cost= 0.035064973
Epoch: 1151 cost= 0.035639193
Epoch: 1152 cost= 0.032202598
Epoch: 1153 cost= 0.037689753
Epoch: 1154 cost= 0.032476328
Epoch: 1155 cost= 0.036062967
Epoch: 1156 cost= 0.034768149
Epoch: 1157 cost= 0.034461789
Epoch: 1158 cost= 0.036347281
```

```
Epoch: 1159 cost= 0.035701167
Epoch: 1160 cost= 0.034066424
Epoch: 1161 cost= 0.036355603
Epoch: 1162 cost= 0.035616986
Epoch: 1163 cost= 0.036974765
Epoch: 1164 cost= 0.037353709
Epoch: 1165 cost= 0.036220461
Epoch: 1166 cost= 0.037020680
Epoch: 1167 cost= 0.036723707
Epoch: 1168 cost= 0.036425892
Epoch: 1169 cost= 0.035133619
Epoch: 1170 cost= 0.036050491
Epoch: 1171 cost= 0.034952939
Epoch: 1172 cost= 0.035098527
Epoch: 1173 cost= 0.035691332
Epoch: 1174 cost= 0.034176890
Epoch: 1175 cost= 0.037524890
Epoch: 1176 cost= 0.032832298
Epoch: 1177 cost= 0.034697831
Epoch: 1178 cost= 0.035133779
Epoch: 1179 cost= 0.038701087
Epoch: 1180 cost= 0.036540307
Epoch: 1181 cost= 0.036087930
Epoch: 1182 cost= 0.038152315
```

```
Epoch: 1183 cost= 0.035543993
Epoch: 1184 cost= 0.035924699
Epoch: 1185 cost= 0.036857732
Epoch: 1186 cost= 0.036103819
Epoch: 1187 cost= 0.034720626
Epoch: 1188 cost= 0.037974186
Epoch: 1189 cost= 0.036180984
Epoch: 1190 cost= 0.035003453
Epoch: 1191 cost= 0.034610674
Epoch: 1192 cost= 0.034646362
Epoch: 1193 cost= 0.035338730
Epoch: 1194 cost= 0.036921039
Epoch: 1195 cost= 0.034075316
Epoch: 1196 cost= 0.037240248
Epoch: 1197 cost= 0.035356726
Epoch: 1198 cost= 0.033005860
Epoch: 1199 cost= 0.035972435
Epoch: 1200 cost= 0.037168421
Epoch: 1201 cost= 0.036498740
Epoch: 1202 cost= 0.036357388
Epoch: 1203 cost= 0.035181280
Epoch: 1204 cost= 0.036507588
Epoch: 1205 cost= 0.035129037
Epoch: 1206 cost= 0.037780892
```

```
Epoch: 1207 cost= 0.035539251
Epoch: 1208 cost= 0.034431942
Epoch: 1209 cost= 0.035788324
Epoch: 1210 cost= 0.034901168
Epoch: 1211 cost= 0.036153279
Epoch: 1212 cost= 0.035206441
Epoch: 1213 cost= 0.037049279
Epoch: 1214 cost= 0.034452610
Epoch: 1215 cost= 0.034291212
Epoch: 1216 cost= 0.036533132
Epoch: 1217 cost= 0.036645267
Epoch: 1218 cost= 0.036251068
Epoch: 1219 cost= 0.035629574
Epoch: 1220 cost= 0.037267786
Epoch: 1221 cost= 0.035870347
Epoch: 1222 cost= 0.035635889
Epoch: 1223 cost= 0.036981970
Epoch: 1224 cost= 0.036578365
Epoch: 1225 cost= 0.035649080
Epoch: 1226 cost= 0.035269134
Epoch: 1227 cost= 0.038311739
Epoch: 1228 cost= 0.034661580
Epoch: 1229 cost= 0.035781685
Epoch: 1230 cost= 0.034882370
```

```
Epoch: 1231 cost= 0.036373954
Epoch: 1232 cost= 0.037192088
Epoch: 1233 cost= 0.036772233
Epoch: 1234 cost= 0.035149511
Epoch: 1235 cost= 0.034724362
Epoch: 1236 cost= 0.036427479
Epoch: 1237 cost= 0.035396438
Epoch: 1238 cost= 0.036785748
Epoch: 1239 cost= 0.036188930
Epoch: 1240 cost= 0.036841601
Epoch: 1241 cost= 0.035115510
Epoch: 1242 cost= 0.035413858
Epoch: 1243 cost= 0.035516087
Epoch: 1244 cost= 0.035604727
Epoch: 1245 cost= 0.034472294
Epoch: 1246 cost= 0.038355894
Epoch: 1247 cost= 0.036961995
Epoch: 1248 cost= 0.035995148
Epoch: 1249 cost= 0.034623798
Epoch: 1250 cost= 0.036341343
Epoch: 1251 cost= 0.037156582
Epoch: 1252 cost= 0.036609240
Epoch: 1253 cost= 0.038319003
Epoch: 1254 cost= 0.037135791
```

```
Epoch: 1255 cost= 0.035070479
Epoch: 1256 cost= 0.035669170
Epoch: 1257 cost= 0.036254309
Epoch: 1258 cost= 0.034710862
Epoch: 1259 cost= 0.034171674
Epoch: 1260 cost= 0.036364883
Epoch: 1261 cost= 0.036060497
Epoch: 1262 cost= 0.036106300
Epoch: 1263 cost= 0.033919718
Epoch: 1264 cost= 0.035889823
Epoch: 1265 cost= 0.035625920
Epoch: 1266 cost= 0.036966927
Epoch: 1267 cost= 0.037477057
Epoch: 1268 cost= 0.036694799
Epoch: 1269 cost= 0.036888771
Epoch: 1270 cost= 0.035420954
Epoch: 1271 cost= 0.035649892
Epoch: 1272 cost= 0.035502732
Epoch: 1273 cost= 0.034577288
Epoch: 1274 cost= 0.034711316
Epoch: 1275 cost= 0.037167341
Epoch: 1276 cost= 0.034451142
Epoch: 1277 cost= 0.034920577
Epoch: 1278 cost= 0.035043206
```

```
Epoch: 1279 cost= 0.036035236
Epoch: 1280 cost= 0.034677848
Epoch: 1281 cost= 0.035889670
Epoch: 1282 cost= 0.036526032
Epoch: 1283 cost= 0.035794757
Epoch: 1284 cost= 0.036260668
Epoch: 1285 cost= 0.038079608
Epoch: 1286 cost= 0.036838092
Epoch: 1287 cost= 0.036198236
Epoch: 1288 cost= 0.035869062
Epoch: 1289 cost= 0.036905829
Epoch: 1290 cost= 0.037397079
Epoch: 1291 cost= 0.036138818
Epoch: 1292 cost= 0.035297580
Epoch: 1293 cost= 0.037119064
Epoch: 1294 cost= 0.036079053
Epoch: 1295 cost= 0.035932016
Epoch: 1296 cost= 0.034572460
Epoch: 1297 cost= 0.037924651
Epoch: 1298 cost= 0.036279853
Epoch: 1299 cost= 0.034564827
Epoch: 1300 cost= 0.035668738
Epoch: 1301 cost= 0.034371763
Epoch: 1302 cost= 0.035107519
```

```
Epoch: 1303 cost= 0.034624908
Epoch: 1304 cost= 0.036394201
Epoch: 1305 cost= 0.034235004
Epoch: 1306 cost= 0.035525978
Epoch: 1307 cost= 0.035143182
Epoch: 1308 cost= 0.036664691
Epoch: 1309 cost= 0.034929276
Epoch: 1310 cost= 0.036301237
Epoch: 1311 cost= 0.037824221
Epoch: 1312 cost= 0.036976483
Epoch: 1313 cost= 0.035422102
Epoch: 1314 cost= 0.035678979
Epoch: 1315 cost= 0.034590818
Epoch: 1316 cost= 0.036418609
Epoch: 1317 cost= 0.035759732
Epoch: 1318 cost= 0.036881208
Epoch: 1319 cost= 0.034988217
Epoch: 1320 cost= 0.036766049
Epoch: 1321 cost= 0.036373284
Epoch: 1322 cost= 0.036383297
Epoch: 1323 cost= 0.033384886
Epoch: 1324 cost= 0.035919812
Epoch: 1325 cost= 0.036553420
Epoch: 1326 cost= 0.036568701
```

```
Epoch: 1327 cost= 0.037854183
Epoch: 1328 cost= 0.034444343
Epoch: 1329 cost= 0.035922229
Epoch: 1330 cost= 0.036110755
Epoch: 1331 cost= 0.034857363
Epoch: 1332 cost= 0.035534732
Epoch: 1333 cost= 0.036011759
Epoch: 1334 cost= 0.034878347
Epoch: 1335 cost= 0.037018176
Epoch: 1336 cost= 0.034984905
Epoch: 1337 cost= 0.035482597
Epoch: 1338 cost= 0.037764214
Epoch: 1339 cost= 0.036515087
Epoch: 1340 cost= 0.034681160
Epoch: 1341 cost= 0.039141126
Epoch: 1342 cost= 0.036419272
Epoch: 1343 cost= 0.035186771
Epoch: 1344 cost= 0.035126410
Epoch: 1345 cost= 0.034830455
Epoch: 1346 cost= 0.035883009
Epoch: 1347 cost= 0.034980934
Epoch: 1348 cost= 0.035761267
Epoch: 1349 cost= 0.034907240
Epoch: 1350 cost= 0.038124610
```

```
Epoch: 1351 cost= 0.034473263
Epoch: 1352 cost= 0.034979064
Epoch: 1353 cost= 0.036725469
Epoch: 1354 cost= 0.036010485
Epoch: 1355 cost= 0.034315296
Epoch: 1356 cost= 0.034071829
Epoch: 1357 cost= 0.036535881
Epoch: 1358 cost= 0.036508214
Epoch: 1359 cost= 0.035343911
Epoch: 1360 cost= 0.033304237
Epoch: 1361 cost= 0.037851743
Epoch: 1362 cost= 0.035685081
Epoch: 1363 cost= 0.035629019
Epoch: 1364 cost= 0.035441332
Epoch: 1365 cost= 0.036967553
Epoch: 1366 cost= 0.037434015
Epoch: 1367 cost= 0.037183225
Epoch: 1368 cost= 0.035348237
Epoch: 1369 cost= 0.033904571
Epoch: 1370 cost= 0.035193503
Epoch: 1371 cost= 0.035729889
Epoch: 1372 cost= 0.035792369
Epoch: 1373 cost= 0.034149852
Epoch: 1374 cost= 0.037240129
```

```
Epoch: 1375 cost= 0.033781953
Epoch: 1376 cost= 0.036611188
Epoch: 1377 cost= 0.035504360
Epoch: 1378 cost= 0.036334116
Epoch: 1379 cost= 0.033801384
Epoch: 1380 cost= 0.036098287
Epoch: 1381 cost= 0.035150476
Epoch: 1382 cost= 0.035123270
Epoch: 1383 cost= 0.035015080
Epoch: 1384 cost= 0.036194839
Epoch: 1385 cost= 0.035889447
Epoch: 1386 cost= 0.036939330
Epoch: 1387 cost= 0.037318870
Epoch: 1388 cost= 0.036032502
Epoch: 1389 cost= 0.036235340
Epoch: 1390 cost= 0.036072519
Epoch: 1391 cost= 0.035919458
Epoch: 1392 cost= 0.036149308
Epoch: 1393 cost= 0.034789890
Epoch: 1394 cost= 0.036219567
Epoch: 1395 cost= 0.035173267
Epoch: 1396 cost= 0.036525562
Epoch: 1397 cost= 0.036019061
Epoch: 1398 cost= 0.035577707
```

```
Epoch: 1399 cost= 0.036690149
Epoch: 1400 cost= 0.035494767
Epoch: 1401 cost= 0.035405360
Epoch: 1402 cost= 0.035240240
Epoch: 1403 cost= 0.035603758
Epoch: 1404 cost= 0.035307601
Epoch: 1405 cost= 0.036436927
Epoch: 1406 cost= 0.034508374
Epoch: 1407 cost= 0.035666842
Epoch: 1408 cost= 0.036387503
Epoch: 1409 cost= 0.036107715
Epoch: 1410 cost= 0.035322301
Epoch: 1411 cost= 0.036261316
Epoch: 1412 cost= 0.035359465
Epoch: 1413 cost= 0.035655331
Epoch: 1414 cost= 0.035390571
Epoch: 1415 cost= 0.036956616
Epoch: 1416 cost= 0.036745343
Epoch: 1417 cost= 0.038008377
Epoch: 1418 cost= 0.036831606
Epoch: 1419 cost= 0.033657458
Epoch: 1420 cost= 0.037090696
Epoch: 1421 cost= 0.036244381
Epoch: 1422 cost= 0.034783337
```

```
Epoch: 1423 cost= 0.035439186
Epoch: 1424 cost= 0.034031417
Epoch: 1425 cost= 0.036338422
Epoch: 1426 cost= 0.035191838
Epoch: 1427 cost= 0.035832077
Epoch: 1428 cost= 0.036410697
Epoch: 1429 cost= 0.036853828
Epoch: 1430 cost= 0.036235061
Epoch: 1431 cost= 0.035376724
Epoch: 1432 cost= 0.038818832
Epoch: 1433 cost= 0.036022164
Epoch: 1434 cost= 0.035302836
Epoch: 1435 cost= 0.034227654
Epoch: 1436 cost= 0.036103230
Epoch: 1437 cost= 0.037401259
Epoch: 1438 cost= 0.037521534
Epoch: 1439 cost= 0.035404965
Epoch: 1440 cost= 0.037133031
Epoch: 1441 cost= 0.036140956
Epoch: 1442 cost= 0.033921611
Epoch: 1443 cost= 0.037754107
Epoch: 1444 cost= 0.036438867
Epoch: 1445 cost= 0.034975924
Epoch: 1446 cost= 0.037063729
```

```
Epoch: 1447 cost= 0.035618324
Epoch: 1448 cost= 0.034526803
Epoch: 1449 cost= 0.034344260
Epoch: 1450 cost= 0.034912221
Epoch: 1451 cost= 0.038162813
Epoch: 1452 cost= 0.035327408
Epoch: 1453 cost= 0.035676729
Epoch: 1454 cost= 0.035158765
Epoch: 1455 cost= 0.038621884
Epoch: 1456 cost= 0.037079822
Epoch: 1457 cost= 0.036608368
Epoch: 1458 cost= 0.035792530
Epoch: 1459 cost= 0.036934499
Epoch: 1460 cost= 0.034035355
Epoch: 1461 cost= 0.036887139
Epoch: 1462 cost= 0.035142295
Epoch: 1463 cost= 0.035429537
Epoch: 1464 cost= 0.034928046
Epoch: 1465 cost= 0.035522617
Epoch: 1466 cost= 0.036751051
Epoch: 1467 cost= 0.036732785
Epoch: 1468 cost= 0.037137896
Epoch: 1469 cost= 0.034337524
Epoch: 1470 cost= 0.032483496
```

```
Epoch: 1471 cost= 0.037624076
Epoch: 1472 cost= 0.036489833
Epoch: 1473 cost= 0.037745811
Epoch: 1474 cost= 0.035550777
Epoch: 1475 cost= 0.035147242
Epoch: 1476 cost= 0.035872966
Epoch: 1477 cost= 0.035528384
Epoch: 1478 cost= 0.034939896
Epoch: 1479 cost= 0.034757912
Epoch: 1480 cost= 0.035108991
Epoch: 1481 cost= 0.037434388
Epoch: 1482 cost= 0.035927527
Epoch: 1483 cost= 0.036173008
Epoch: 1484 cost= 0.034876652
Epoch: 1485 cost= 0.036383439
Epoch: 1486 cost= 0.034829471
Epoch: 1487 cost= 0.032863189
Epoch: 1488 cost= 0.036876310
Epoch: 1489 cost= 0.034692679
Epoch: 1490 cost= 0.034513604
Epoch: 1491 cost= 0.034993134
Epoch: 1492 cost= 0.037150431
Epoch: 1493 cost= 0.034077965
Epoch: 1494 cost= 0.035700005
```

```
Epoch: 1495 cost= 0.037545957
Epoch: 1496 cost= 0.035313632
Epoch: 1497 cost= 0.034678884
Epoch: 1498 cost= 0.034613479
Epoch: 1499 cost= 0.036284942
Epoch: 1500 cost= 0.035875484
Epoch: 1501 cost= 0.034539092
Epoch: 1502 cost= 0.036173668
Epoch: 1503 cost= 0.035482336
Epoch: 1504 cost= 0.037069101
Epoch: 1505 cost= 0.035975397
Epoch: 1506 cost= 0.036972854
Epoch: 1507 cost= 0.036500070
Epoch: 1508 cost= 0.034121942
Epoch: 1509 cost= 0.036506832
Epoch: 1510 cost= 0.037171900
Epoch: 1511 cost= 0.037963834
Epoch: 1512 cost= 0.034857985
Epoch: 1513 cost= 0.035959929
Epoch: 1514 cost= 0.035262574
Epoch: 1515 cost= 0.035510257
Epoch: 1516 cost= 0.036224030
Epoch: 1517 cost= 0.035954807
Epoch: 1518 cost= 0.036731813
```

```
Epoch: 1519 cost= 0.036357470
Epoch: 1520 cost= 0.035844583
Epoch: 1521 cost= 0.035344265
Epoch: 1522 cost= 0.036014877
Epoch: 1523 cost= 0.035616919
Epoch: 1524 cost= 0.035239868
Epoch: 1525 cost= 0.034214661
Epoch: 1526 cost= 0.034420189
Epoch: 1527 cost= 0.034581698
Epoch: 1528 cost= 0.036081925
Epoch: 1529 cost= 0.037367072
Epoch: 1530 cost= 0.034409296
Epoch: 1531 cost= 0.034654412
Epoch: 1532 cost= 0.036725834
Epoch: 1533 cost= 0.035719946
Epoch: 1534 cost= 0.035780907
Epoch: 1535 cost= 0.035922017
Epoch: 1536 cost= 0.033665705
Epoch: 1537 cost= 0.035730787
Epoch: 1538 cost= 0.035667486
Epoch: 1539 cost= 0.036812555
Epoch: 1540 cost= 0.034512457
Epoch: 1541 cost= 0.035772692
Epoch: 1542 cost= 0.033828318
```

```
Epoch: 1543 cost= 0.035816632
Epoch: 1544 cost= 0.037794415
Epoch: 1545 cost= 0.036086511
Epoch: 1546 cost= 0.037734132
Epoch: 1547 cost= 0.036289722
Epoch: 1548 cost= 0.036211189
Epoch: 1549 cost= 0.038096782
Epoch: 1550 cost= 0.035717167
Epoch: 1551 cost= 0.034948714
Epoch: 1552 cost= 0.037846651
Epoch: 1553 cost= 0.036813404
Epoch: 1554 cost= 0.036778994
Epoch: 1555 cost= 0.035420861
Epoch: 1556 cost= 0.035216250
Epoch: 1557 cost= 0.035481978
Epoch: 1558 cost= 0.036214944
Epoch: 1559 cost= 0.035476316
Epoch: 1560 cost= 0.037485532
Epoch: 1561 cost= 0.034807287
Epoch: 1562 cost= 0.035008520
Epoch: 1563 cost= 0.034716554
Epoch: 1564 cost= 0.037137836
Epoch: 1565 cost= 0.037141532
Epoch: 1566 cost= 0.037179261
```

```
Epoch: 1567 cost= 0.034571748
Epoch: 1568 cost= 0.036045130
Epoch: 1569 cost= 0.035068162
Epoch: 1570 cost= 0.034459010
Epoch: 1571 cost= 0.035382282
Epoch: 1572 cost= 0.034673080
Epoch: 1573 cost= 0.033902124
Epoch: 1574 cost= 0.036216799
Epoch: 1575 cost= 0.036794215
Epoch: 1576 cost= 0.036171932
Epoch: 1577 cost= 0.037515018
Epoch: 1578 cost= 0.036472403
Epoch: 1579 cost= 0.036185183
Epoch: 1580 cost= 0.037983987
Epoch: 1581 cost= 0.036408365
Epoch: 1582 cost= 0.035743378
Epoch: 1583 cost= 0.034580689
Epoch: 1584 cost= 0.037138220
Epoch: 1585 cost= 0.035857923
Epoch: 1586 cost= 0.036460362
Epoch: 1587 cost= 0.034467012
Epoch: 1588 cost= 0.036499865
Epoch: 1589 cost= 0.035739675
Epoch: 1590 cost= 0.036008697
```

```
Epoch: 1591 cost= 0.034471583
Epoch: 1592 cost= 0.038062841
Epoch: 1593 cost= 0.037707746
Epoch: 1594 cost= 0.035770703
Epoch: 1595 cost= 0.035133906
Epoch: 1596 cost= 0.038163848
Epoch: 1597 cost= 0.036443871
Epoch: 1598 cost= 0.034015782
Epoch: 1599 cost= 0.036772247
Epoch: 1600 cost= 0.034317482
Epoch: 1601 cost= 0.035079356
Epoch: 1602 cost= 0.035490945
Epoch: 1603 cost= 0.039502028
Epoch: 1604 cost= 0.034493577
Epoch: 1605 cost= 0.035758793
Epoch: 1606 cost= 0.035682447
Epoch: 1607 cost= 0.034534201
Epoch: 1608 cost= 0.037575129
Epoch: 1609 cost= 0.034367573
Epoch: 1610 cost= 0.036003131
Epoch: 1611 cost= 0.037406668
Epoch: 1612 cost= 0.035742860
Epoch: 1613 cost= 0.035788391
Epoch: 1614 cost= 0.036073402
```

```
Epoch: 1615 cost= 0.036012512
Epoch: 1616 cost= 0.036654968
Epoch: 1617 cost= 0.034379359
Epoch: 1618 cost= 0.038280927
Epoch: 1619 cost= 0.034167372
Epoch: 1620 cost= 0.035101905
Epoch: 1621 cost= 0.035887692
Epoch: 1622 cost= 0.037084132
Epoch: 1623 cost= 0.033721149
Epoch: 1624 cost= 0.037444353
Epoch: 1625 cost= 0.037102889
Epoch: 1626 cost= 0.033274502
Epoch: 1627 cost= 0.037045863
Epoch: 1628 cost= 0.037546638
Epoch: 1629 cost= 0.038408134
Epoch: 1630 cost= 0.037071660
Epoch: 1631 cost= 0.036432881
Epoch: 1632 cost= 0.034133635
Epoch: 1633 cost= 0.034429912
Epoch: 1634 cost= 0.035780385
Epoch: 1635 cost= 0.034830835
Epoch: 1636 cost= 0.034701448
Epoch: 1637 cost= 0.036447860
Epoch: 1638 cost= 0.034620490
```

```
Epoch: 1639 cost= 0.033797890
Epoch: 1640 cost= 0.036765531
Epoch: 1641 cost= 0.035739675
Epoch: 1642 cost= 0.036622062
Epoch: 1643 cost= 0.034395117
Epoch: 1644 cost= 0.036359463
Epoch: 1645 cost= 0.035488270
Epoch: 1646 cost= 0.036680020
Epoch: 1647 cost= 0.034867220
Epoch: 1648 cost= 0.035560206
Epoch: 1649 cost= 0.034904115
Epoch: 1650 cost= 0.035652474
Epoch: 1651 cost= 0.035528805
Epoch: 1652 cost= 0.034633219
Epoch: 1653 cost= 0.035916597
Epoch: 1654 cost= 0.035053544
Epoch: 1655 cost= 0.037155863
Epoch: 1656 cost= 0.034750313
Epoch: 1657 cost= 0.036967602
Epoch: 1658 cost= 0.037116781
Epoch: 1659 cost= 0.035009824
Epoch: 1660 cost= 0.036582887
Epoch: 1661 cost= 0.036276728
Epoch: 1662 cost= 0.035195187
```

```
Epoch: 1663 cost= 0.035538901
Epoch: 1664 cost= 0.034942828
Epoch: 1665 cost= 0.035229411
Epoch: 1666 cost= 0.036390908
Epoch: 1667 cost= 0.036247857
Epoch: 1668 cost= 0.035981044
Epoch: 1669 cost= 0.035711713
Epoch: 1670 cost= 0.035917535
Epoch: 1671 cost= 0.037843768
Epoch: 1672 cost= 0.036577955
Epoch: 1673 cost= 0.034329869
Epoch: 1674 cost= 0.034562998
Epoch: 1675 cost= 0.036738027
Epoch: 1676 cost= 0.035486799
Epoch: 1677 cost= 0.034973737
Epoch: 1678 cost= 0.034734387
Epoch: 1679 cost= 0.035908636
Epoch: 1680 cost= 0.035258934
Epoch: 1681 cost= 0.036832131
Epoch: 1682 cost= 0.036499050
Epoch: 1683 cost= 0.034515735
Epoch: 1684 cost= 0.036506761
Epoch: 1685 cost= 0.036238730
Epoch: 1686 cost= 0.033755619
```

```
Epoch: 1687 cost= 0.037867770
Epoch: 1688 cost= 0.033863373
Epoch: 1689 cost= 0.038367566
Epoch: 1690 cost= 0.036586393
Epoch: 1691 cost= 0.037719745
Epoch: 1692 cost= 0.033446085
Epoch: 1693 cost= 0.036532216
Epoch: 1694 cost= 0.037550297
Epoch: 1695 cost= 0.034643125
Epoch: 1696 cost= 0.035246246
Epoch: 1697 cost= 0.034128826
Epoch: 1698 cost= 0.036331069
Epoch: 1699 cost= 0.035701789
Epoch: 1700 cost= 0.035220411
Epoch: 1701 cost= 0.036595426
Epoch: 1702 cost= 0.037622437
Epoch: 1703 cost= 0.034012064
Epoch: 1704 cost= 0.036544565
Epoch: 1705 cost= 0.035027411
Epoch: 1706 cost= 0.037124462
Epoch: 1707 cost= 0.035871889
Epoch: 1708 cost= 0.034886982
Epoch: 1709 cost= 0.035387229
Epoch: 1710 cost= 0.036680382
```

```
Epoch: 1711 cost= 0.034490719
Epoch: 1712 cost= 0.034052767
Epoch: 1713 cost= 0.037091143
Epoch: 1714 cost= 0.035659850
Epoch: 1715 cost= 0.034991391
Epoch: 1716 cost= 0.036475293
Epoch: 1717 cost= 0.035203107
Epoch: 1718 cost= 0.034571134
Epoch: 1719 cost= 0.033708688
Epoch: 1720 cost= 0.034353953
Epoch: 1721 cost= 0.033775009
Epoch: 1722 cost= 0.033640675
Epoch: 1723 cost= 0.035335537
Epoch: 1724 cost= 0.035785034
Epoch: 1725 cost= 0.036368359
Epoch: 1726 cost= 0.034513332
Epoch: 1727 cost= 0.037925582
Epoch: 1728 cost= 0.039298922
Epoch: 1729 cost= 0.035407841
Epoch: 1730 cost= 0.035740290
Epoch: 1731 cost= 0.034956075
Epoch: 1732 cost= 0.035913035
Epoch: 1733 cost= 0.036176506
Epoch: 1734 cost= 0.035021003
```

```
Epoch: 1735 cost= 0.036046684
Epoch: 1736 cost= 0.036141668
Epoch: 1737 cost= 0.036684938
Epoch: 1738 cost= 0.036834601
Epoch: 1739 cost= 0.036479305
Epoch: 1740 cost= 0.035811394
Epoch: 1741 cost= 0.036628406
Epoch: 1742 cost= 0.035403363
Epoch: 1743 cost= 0.035633456
Epoch: 1744 cost= 0.035348173
Epoch: 1745 cost= 0.034157563
Epoch: 1746 cost= 0.035496246
Epoch: 1747 cost= 0.037033286
Epoch: 1748 cost= 0.033757612
Epoch: 1749 cost= 0.037737779
Epoch: 1750 cost= 0.035242226
Epoch: 1751 cost= 0.037141770
Epoch: 1752 cost= 0.036328062
Epoch: 1753 cost= 0.034805123
Epoch: 1754 cost= 0.036106940
Epoch: 1755 cost= 0.035582315
Epoch: 1756 cost= 0.035966486
Epoch: 1757 cost= 0.034308430
Epoch: 1758 cost= 0.037688106
```

```
Epoch: 1759 cost= 0.035318155
Epoch: 1760 cost= 0.034817379
Epoch: 1761 cost= 0.035457902
Epoch: 1762 cost= 0.036793984
Epoch: 1763 cost= 0.035273977
Epoch: 1764 cost= 0.038374014
Epoch: 1765 cost= 0.035413891
Epoch: 1766 cost= 0.035502937
Epoch: 1767 cost= 0.035260793
Epoch: 1768 cost= 0.036346704
Epoch: 1769 cost= 0.037469231
Epoch: 1770 cost= 0.035609957
Epoch: 1771 cost= 0.036495853
Epoch: 1772 cost= 0.034348946
Epoch: 1773 cost= 0.034486696
Epoch: 1774 cost= 0.034080528
Epoch: 1775 cost= 0.036293637
Epoch: 1776 cost= 0.034986466
Epoch: 1777 cost= 0.035667591
Epoch: 1778 cost= 0.036239266
Epoch: 1779 cost= 0.035625484
Epoch: 1780 cost= 0.034963354
Epoch: 1781 cost= 0.034937270
Epoch: 1782 cost= 0.034838241
```

```
Epoch: 1783 cost= 0.034388158
Epoch: 1784 cost= 0.037627127
Epoch: 1785 cost= 0.035128463
Epoch: 1786 cost= 0.034763310
Epoch: 1787 cost= 0.034492183
Epoch: 1788 cost= 0.034301732
Epoch: 1789 cost= 0.034839153
Epoch: 1790 cost= 0.034479793
Epoch: 1791 cost= 0.039397370
Epoch: 1792 cost= 0.033472184
Epoch: 1793 cost= 0.035474669
Epoch: 1794 cost= 0.035335340
Epoch: 1795 cost= 0.036910802
Epoch: 1796 cost= 0.035413899
Epoch: 1797 cost= 0.035271544
Epoch: 1798 cost= 0.036088429
Epoch: 1799 cost= 0.037266877
Epoch: 1800 cost= 0.036494814
Epoch: 1801 cost= 0.036518976
Epoch: 1802 cost= 0.035407174
Epoch: 1803 cost= 0.036873758
Epoch: 1804 cost= 0.035901934
Epoch: 1805 cost= 0.033631373
Epoch: 1806 cost= 0.036116987
```

```
Epoch: 1807 cost= 0.034855396
Epoch: 1808 cost= 0.035656858
Epoch: 1809 cost= 0.035855815
Epoch: 1810 cost= 0.036980800
Epoch: 1811 cost= 0.034502149
Epoch: 1812 cost= 0.035989042
Epoch: 1813 cost= 0.036383931
Epoch: 1814 cost= 0.036203478
Epoch: 1815 cost= 0.036278021
Epoch: 1816 cost= 0.036545575
Epoch: 1817 cost= 0.035826854
Epoch: 1818 cost= 0.036010172
Epoch: 1819 cost= 0.037591983
Epoch: 1820 cost= 0.036561556
Epoch: 1821 cost= 0.035908408
Epoch: 1822 cost= 0.035365563
Epoch: 1823 cost= 0.035287496
Epoch: 1824 cost= 0.035986427
Epoch: 1825 cost= 0.035009619
Epoch: 1826 cost= 0.035813570
Epoch: 1827 cost= 0.034107894
Epoch: 1828 cost= 0.035003934
Epoch: 1829 cost= 0.036922012
Epoch: 1830 cost= 0.036597989
```

```
Epoch: 1831 cost= 0.034015507
Epoch: 1832 cost= 0.036563672
Epoch: 1833 cost= 0.035373420
Epoch: 1834 cost= 0.034824084
Epoch: 1835 cost= 0.034374036
Epoch: 1836 cost= 0.035287265
Epoch: 1837 cost= 0.036224861
Epoch: 1838 cost= 0.033675525
Epoch: 1839 cost= 0.036055122
Epoch: 1840 cost= 0.034812026
Epoch: 1841 cost= 0.036774687
Epoch: 1842 cost= 0.035798945
Epoch: 1843 cost= 0.037078347
Epoch: 1844 cost= 0.037875004
Epoch: 1845 cost= 0.037461188
Epoch: 1846 cost= 0.038931236
Epoch: 1847 cost= 0.034836534
Epoch: 1848 cost= 0.033611629
Epoch: 1849 cost= 0.036156211
Epoch: 1850 cost= 0.035409249
Epoch: 1851 cost= 0.036252819
Epoch: 1852 cost= 0.035427041
Epoch: 1853 cost= 0.036208384
Epoch: 1854 cost= 0.033609115
```

```
Epoch: 1855 cost= 0.034542210
Epoch: 1856 cost= 0.035494953
Epoch: 1857 cost= 0.035315320
Epoch: 1858 cost= 0.034817502
Epoch: 1859 cost= 0.037099015
Epoch: 1860 cost= 0.038081303
Epoch: 1861 cost= 0.035605509
Epoch: 1862 cost= 0.037198499
Epoch: 1863 cost= 0.037647866
Epoch: 1864 cost= 0.035856061
Epoch: 1865 cost= 0.035124518
Epoch: 1866 cost= 0.035785388
Epoch: 1867 cost= 0.033870891
Epoch: 1868 cost= 0.038322423
Epoch: 1869 cost= 0.034924317
Epoch: 1870 cost= 0.035912659
Epoch: 1871 cost= 0.038846701
Epoch: 1872 cost= 0.036606148
Epoch: 1873 cost= 0.035043903
Epoch: 1874 cost= 0.035422485
Epoch: 1875 cost= 0.035676643
Epoch: 1876 cost= 0.035338007
Epoch: 1877 cost= 0.036107957
Epoch: 1878 cost= 0.036951806
```

```
Epoch: 1879 cost= 0.036504917
Epoch: 1880 cost= 0.036693078
Epoch: 1881 cost= 0.036003228
Epoch: 1882 cost= 0.036389075
Epoch: 1883 cost= 0.036416288
Epoch: 1884 cost= 0.035600871
Epoch: 1885 cost= 0.033792913
Epoch: 1886 cost= 0.033917904
Epoch: 1887 cost= 0.036753800
Epoch: 1888 cost= 0.034747176
Epoch: 1889 cost= 0.034648854
Epoch: 1890 cost= 0.034011573
Epoch: 1891 cost= 0.037582427
Epoch: 1892 cost= 0.036143813
Epoch: 1893 cost= 0.035816889
Epoch: 1894 cost= 0.034606028
Epoch: 1895 cost= 0.035063945
Epoch: 1896 cost= 0.035745792
Epoch: 1897 cost= 0.035083346
Epoch: 1898 cost= 0.036287643
Epoch: 1899 cost= 0.034939654
Epoch: 1900 cost= 0.036416024
Epoch: 1901 cost= 0.035431307
Epoch: 1902 cost= 0.034495708
```

```
Epoch: 1903 cost= 0.036300965
Epoch: 1904 cost= 0.034826260
Epoch: 1905 cost= 0.035090383
Epoch: 1906 cost= 0.034465242
Epoch: 1907 cost= 0.036462914
Epoch: 1908 cost= 0.036264412
Epoch: 1909 cost= 0.036097027
Epoch: 1910 cost= 0.035012692
Epoch: 1911 cost= 0.035186253
Epoch: 1912 cost= 0.034659296
Epoch: 1913 cost= 0.036504537
Epoch: 1914 cost= 0.035562288
Epoch: 1915 cost= 0.037668370
Epoch: 1916 cost= 0.034967110
Epoch: 1917 cost= 0.035614762
Epoch: 1918 cost= 0.035476092
Epoch: 1919 cost= 0.035609193
Epoch: 1920 cost= 0.036893517
Epoch: 1921 cost= 0.036299907
Epoch: 1922 cost= 0.036885027
Epoch: 1923 cost= 0.035586506
Epoch: 1924 cost= 0.038188651
Epoch: 1925 cost= 0.034023367
Epoch: 1926 cost= 0.036725376
```

```
Epoch: 1927 cost= 0.036679044
Epoch: 1928 cost= 0.034051392
Epoch: 1929 cost= 0.036514528
Epoch: 1930 cost= 0.035552766
Epoch: 1931 cost= 0.034862198
Epoch: 1932 cost= 0.035495214
Epoch: 1933 cost= 0.034141686
Epoch: 1934 cost= 0.035043810
Epoch: 1935 cost= 0.035234835
Epoch: 1936 cost= 0.034823358
Epoch: 1937 cost= 0.034026694
Epoch: 1938 cost= 0.035989106
Epoch: 1939 cost= 0.035296150
Epoch: 1940 cost= 0.036623005
Epoch: 1941 cost= 0.037623994
Epoch: 1942 cost= 0.035831876
Epoch: 1943 cost= 0.035990957
Epoch: 1944 cost= 0.036961216
Epoch: 1945 cost= 0.035142828
Epoch: 1946 cost= 0.034354113
Epoch: 1947 cost= 0.035570625
Epoch: 1948 cost= 0.034876868
Epoch: 1949 cost= 0.035322517
Epoch: 1950 cost= 0.033106230
```

```
Epoch: 1951 cost= 0.035430357
Epoch: 1952 cost= 0.034547780
Epoch: 1953 cost= 0.035076275
Epoch: 1954 cost= 0.033829458
Epoch: 1955 cost= 0.036054671
Epoch: 1956 cost= 0.037250564
Epoch: 1957 cost= 0.038295630
Epoch: 1958 cost= 0.034964383
Epoch: 1959 cost= 0.034398902
Epoch: 1960 cost= 0.036392160
Epoch: 1961 cost= 0.035614032
Epoch: 1962 cost= 0.034585975
Epoch: 1963 cost= 0.036682937
Epoch: 1964 cost= 0.035488326
Epoch: 1965 cost= 0.035963546
Epoch: 1966 cost= 0.033026055
Epoch: 1967 cost= 0.036297478
Epoch: 1968 cost= 0.035613511
Epoch: 1969 cost= 0.033994604
Epoch: 1970 cost= 0.036479667
Epoch: 1971 cost= 0.035058487
Epoch: 1972 cost= 0.035053115
Epoch: 1973 cost= 0.035964757
Epoch: 1974 cost= 0.034806233
```

```
Epoch: 1975 cost= 0.033943452
Epoch: 1976 cost= 0.036594044
Epoch: 1977 cost= 0.034659360
Epoch: 1978 cost= 0.037430778
Epoch: 1979 cost= 0.035262164
Epoch: 1980 cost= 0.035062570
Epoch: 1981 cost= 0.034693003
Epoch: 1982 cost= 0.034265954
Epoch: 1983 cost= 0.035107899
Epoch: 1984 cost= 0.033980995
Epoch: 1985 cost= 0.036043163
Epoch: 1986 cost= 0.036580160
Epoch: 1987 cost= 0.035199340
Epoch: 1988 cost= 0.034753736
Epoch: 1989 cost= 0.034332909
Epoch: 1990 cost= 0.034509830
Epoch: 1991 cost= 0.036061902
Epoch: 1992 cost= 0.035387591
Epoch: 1993 cost= 0.034915302
Epoch: 1994 cost= 0.037263516
Epoch: 1995 cost= 0.034199864
Epoch: 1996 cost= 0.034829725
Epoch: 1997 cost= 0.036778629
Epoch: 1998 cost= 0.034923822
```

```
Epoch: 1999 cost= 0.036062159
Epoch: 2000 cost= 0.033658173
Epoch: 2001 cost= 0.035049155
Epoch: 2002 cost= 0.038222071
Epoch: 2003 cost= 0.034712065
Epoch: 2004 cost= 0.034308866
Epoch: 2005 cost= 0.034820128
Epoch: 2006 cost= 0.037339635
Epoch: 2007 cost= 0.036614351
Epoch: 2008 cost= 0.036996860
Epoch: 2009 cost= 0.035443436
Epoch: 2010 cost= 0.035589859
Epoch: 2011 cost= 0.035853151
Epoch: 2012 cost= 0.035194300
Epoch: 2013 cost= 0.036971621
Epoch: 2014 cost= 0.035762493
Epoch: 2015 cost= 0.037762366
Epoch: 2016 cost= 0.035107508
Epoch: 2017 cost= 0.034356240
Epoch: 2018 cost= 0.034402508
Epoch: 2019 cost= 0.035481691
Epoch: 2020 cost= 0.034032606
Epoch: 2021 cost= 0.035681672
Epoch: 2022 cost= 0.035028104
```

```
Epoch: 2023 cost= 0.036375258
Epoch: 2024 cost= 0.036173955
Epoch: 2025 cost= 0.036064833
Epoch: 2026 cost= 0.035936177
Epoch: 2027 cost= 0.034995668
Epoch: 2028 cost= 0.034915641
Epoch: 2029 cost= 0.034285437
Epoch: 2030 cost= 0.037490975
Epoch: 2031 cost= 0.036717124
Epoch: 2032 cost= 0.037579268
Epoch: 2033 cost= 0.034231458
Epoch: 2034 cost= 0.034832194
Epoch: 2035 cost= 0.035307936
Epoch: 2036 cost= 0.035920888
Epoch: 2037 cost= 0.035845157
Epoch: 2038 cost= 0.036731534
Epoch: 2039 cost= 0.036106206
Epoch: 2040 cost= 0.037259843
Epoch: 2041 cost= 0.034743529
Epoch: 2042 cost= 0.037253469
Epoch: 2043 cost= 0.036524959
Epoch: 2044 cost= 0.038940314
Epoch: 2045 cost= 0.036719434
Epoch: 2046 cost= 0.035399757
```

```
Epoch: 2047 cost= 0.035242822
Epoch: 2048 cost= 0.036706109
Epoch: 2049 cost= 0.035802711
Epoch: 2050 cost= 0.035012629
Epoch: 2051 cost= 0.035666049
Epoch: 2052 cost= 0.034565911
Epoch: 2053 cost= 0.035516325
Epoch: 2054 cost= 0.034808028
Epoch: 2055 cost= 0.037157625
Epoch: 2056 cost= 0.036912747
Epoch: 2057 cost= 0.036254942
Epoch: 2058 cost= 0.034886185
Epoch: 2059 cost= 0.034679823
Epoch: 2060 cost= 0.036018953
Epoch: 2061 cost= 0.036636762
Epoch: 2062 cost= 0.036481049
Epoch: 2063 cost= 0.035180368
Epoch: 2064 cost= 0.035887517
Epoch: 2065 cost= 0.036113802
Epoch: 2066 cost= 0.035617985
Epoch: 2067 cost= 0.036892563
Epoch: 2068 cost= 0.037639730
Epoch: 2069 cost= 0.035499670
Epoch: 2070 cost= 0.035264354
```

```
Epoch: 2071 cost= 0.034609243
Epoch: 2072 cost= 0.037606858
Epoch: 2073 cost= 0.034669880
Epoch: 2074 cost= 0.036774330
Epoch: 2075 cost= 0.036666676
Epoch: 2076 cost= 0.034136496
Epoch: 2077 cost= 0.038583234
Epoch: 2078 cost= 0.037368685
Epoch: 2079 cost= 0.033781528
Epoch: 2080 cost= 0.035018012
Epoch: 2081 cost= 0.036086701
Epoch: 2082 cost= 0.033811789
Epoch: 2083 cost= 0.034829415
Epoch: 2084 cost= 0.035267070
Epoch: 2085 cost= 0.036076337
Epoch: 2086 cost= 0.035407078
Epoch: 2087 cost= 0.035990231
Epoch: 2088 cost= 0.036411792
Epoch: 2089 cost= 0.037514929
Epoch: 2090 cost= 0.037254240
Epoch: 2091 cost= 0.035815611
Epoch: 2092 cost= 0.034157254
Epoch: 2093 cost= 0.035024192
Epoch: 2094 cost= 0.036952425
```

```
Epoch: 2095 cost= 0.035943322
Epoch: 2096 cost= 0.035305798
Epoch: 2097 cost= 0.034202412
Epoch: 2098 cost= 0.036556724
Epoch: 2099 cost= 0.034243308
Epoch: 2100 cost= 0.034582000
Epoch: 2101 cost= 0.035999898
Epoch: 2102 cost= 0.032976571
Epoch: 2103 cost= 0.037372466
Epoch: 2104 cost= 0.034555726
Epoch: 2105 cost= 0.036064737
Epoch: 2106 cost= 0.034531962
Epoch: 2107 cost= 0.036978059
Epoch: 2108 cost= 0.036019627
Epoch: 2109 cost= 0.035053995
Epoch: 2110 cost= 0.034739520
Epoch: 2111 cost= 0.035834622
Epoch: 2112 cost= 0.036181089
Epoch: 2113 cost= 0.034396421
Epoch: 2114 cost= 0.033419937
Epoch: 2115 cost= 0.035062037
Epoch: 2116 cost= 0.037510797
Epoch: 2117 cost= 0.035467692
Epoch: 2118 cost= 0.033619616
```

```
Epoch: 2119 cost= 0.034520470
Epoch: 2120 cost= 0.036853511
Epoch: 2121 cost= 0.036556233
Epoch: 2122 cost= 0.036007881
Epoch: 2123 cost= 0.034970086
Epoch: 2124 cost= 0.039186910
Epoch: 2125 cost= 0.036051095
Epoch: 2126 cost= 0.035847802
Epoch: 2127 cost= 0.036163025
Epoch: 2128 cost= 0.035681624
Epoch: 2129 cost= 0.035280373
Epoch: 2130 cost= 0.034734182
Epoch: 2131 cost= 0.036722504
Epoch: 2132 cost= 0.035054665
Epoch: 2133 cost= 0.037226669
Epoch: 2134 cost= 0.034534693
Epoch: 2135 cost= 0.036749274
Epoch: 2136 cost= 0.036050778
Epoch: 2137 cost= 0.035423778
Epoch: 2138 cost= 0.034680560
Epoch: 2139 cost= 0.038155813
Epoch: 2140 cost= 0.035826877
Epoch: 2141 cost= 0.036768347
Epoch: 2142 cost= 0.037720054
```

```
Epoch: 2143 cost= 0.037963051
Epoch: 2144 cost= 0.036251478
Epoch: 2145 cost= 0.035720922
Epoch: 2146 cost= 0.033700705
Epoch: 2147 cost= 0.035706405
Epoch: 2148 cost= 0.035287179
Epoch: 2149 cost= 0.036760185
Epoch: 2150 cost= 0.036031552
Epoch: 2151 cost= 0.036405399
Epoch: 2152 cost= 0.038030114
Epoch: 2153 cost= 0.035255197
Epoch: 2154 cost= 0.033930894
Epoch: 2155 cost= 0.037517384
Epoch: 2156 cost= 0.036094338
Epoch: 2157 cost= 0.039576676
Epoch: 2158 cost= 0.035669357
Epoch: 2159 cost= 0.035643581
Epoch: 2160 cost= 0.037342731
Epoch: 2161 cost= 0.035195746
Epoch: 2162 cost= 0.036054146
Epoch: 2163 cost= 0.036118113
Epoch: 2164 cost= 0.034654811
Epoch: 2165 cost= 0.035721656
Epoch: 2166 cost= 0.033860758
```

```
Epoch: 2167 cost= 0.037028003
Epoch: 2168 cost= 0.036493141
Epoch: 2169 cost= 0.036794249
Epoch: 2170 cost= 0.036097754
Epoch: 2171 cost= 0.037411004
Epoch: 2172 cost= 0.036204256
Epoch: 2173 cost= 0.034564588
Epoch: 2174 cost= 0.036839195
Epoch: 2175 cost= 0.034625694
Epoch: 2176 cost= 0.034761291
Epoch: 2177 cost= 0.034517795
Epoch: 2178 cost= 0.035766140
Epoch: 2179 cost= 0.036467273
Epoch: 2180 cost= 0.034155786
Epoch: 2181 cost= 0.037749920
Epoch: 2182 cost= 0.035869293
Epoch: 2183 cost= 0.035206448
Epoch: 2184 cost= 0.035835363
Epoch: 2185 cost= 0.035558671
Epoch: 2186 cost= 0.036219355
Epoch: 2187 cost= 0.036350049
Epoch: 2188 cost= 0.037032027
Epoch: 2189 cost= 0.034627166
Epoch: 2190 cost= 0.034205575
```

```
Epoch: 2191 cost= 0.035766982
Epoch: 2192 cost= 0.033703063
Epoch: 2193 cost= 0.034631278
Epoch: 2194 cost= 0.035404153
Epoch: 2195 cost= 0.035173740
Epoch: 2196 cost= 0.037886053
Epoch: 2197 cost= 0.033587452
Epoch: 2198 cost= 0.035609469
Epoch: 2199 cost= 0.036512807
Epoch: 2200 cost= 0.034998551
Epoch: 2201 cost= 0.035304230
Epoch: 2202 cost= 0.035851829
Epoch: 2203 cost= 0.035055608
Epoch: 2204 cost= 0.034707535
Epoch: 2205 cost= 0.038473208
Epoch: 2206 cost= 0.034855317
Epoch: 2207 cost= 0.035539228
Epoch: 2208 cost= 0.034326430
Epoch: 2209 cost= 0.035896558
Epoch: 2210 cost= 0.035327543
Epoch: 2211 cost= 0.036275629
Epoch: 2212 cost= 0.037020274
Epoch: 2213 cost= 0.037467130
Epoch: 2214 cost= 0.036676764
```

```
Epoch: 2215 cost= 0.036110304
Epoch: 2216 cost= 0.033270571
Epoch: 2217 cost= 0.034827255
Epoch: 2218 cost= 0.034756925
Epoch: 2219 cost= 0.036730658
Epoch: 2220 cost= 0.034226190
Epoch: 2221 cost= 0.034396827
Epoch: 2222 cost= 0.035744123
Epoch: 2223 cost= 0.035045248
Epoch: 2224 cost= 0.037254665
Epoch: 2225 cost= 0.036514431
Epoch: 2226 cost= 0.034708861
Epoch: 2227 cost= 0.034993995
Epoch: 2228 cost= 0.034864314
Epoch: 2229 cost= 0.034560855
Epoch: 2230 cost= 0.034392282
Epoch: 2231 cost= 0.035190571
Epoch: 2232 cost= 0.034824781
Epoch: 2233 cost= 0.035051219
Epoch: 2234 cost= 0.034709331
Epoch: 2235 cost= 0.035412084
Epoch: 2236 cost= 0.033752095
Epoch: 2237 cost= 0.036061428
Epoch: 2238 cost= 0.037392590
```

```
Epoch: 2239 cost= 0.035880625
Epoch: 2240 cost= 0.034719810
Epoch: 2241 cost= 0.036690596
Epoch: 2242 cost= 0.033980437
Epoch: 2243 cost= 0.036769245
Epoch: 2244 cost= 0.035122167
Epoch: 2245 cost= 0.034167651
Epoch: 2246 cost= 0.034476228
Epoch: 2247 cost= 0.035573088
Epoch: 2248 cost= 0.033959400
Epoch: 2249 cost= 0.036985099
Epoch: 2250 cost= 0.035672087
Epoch: 2251 cost= 0.035535902
Epoch: 2252 cost= 0.036352932
Epoch: 2253 cost= 0.036509145
Epoch: 2254 cost= 0.034236368
Epoch: 2255 cost= 0.034164965
Epoch: 2256 cost= 0.035580941
Epoch: 2257 cost= 0.035129838
Epoch: 2258 cost= 0.037442241
Epoch: 2259 cost= 0.036821134
Epoch: 2260 cost= 0.035430897
Epoch: 2261 cost= 0.036891736
Epoch: 2262 cost= 0.036678255
```

```
Epoch: 2263 cost= 0.033635493
Epoch: 2264 cost= 0.034771945
Epoch: 2265 cost= 0.034134645
Epoch: 2266 cost= 0.035726547
Epoch: 2267 cost= 0.034294069
Epoch: 2268 cost= 0.036062501
Epoch: 2269 cost= 0.035770506
Epoch: 2270 cost= 0.036461860
Epoch: 2271 cost= 0.038980160
Epoch: 2272 cost= 0.035509773
Epoch: 2273 cost= 0.034290101
Epoch: 2274 cost= 0.036408201
Epoch: 2275 cost= 0.034266952
Epoch: 2276 cost= 0.035447296
Epoch: 2277 cost= 0.036943197
Epoch: 2278 cost= 0.036129650
Epoch: 2279 cost= 0.036931671
Epoch: 2280 cost= 0.035224579
Epoch: 2281 cost= 0.032289360
Epoch: 2282 cost= 0.034948625
Epoch: 2283 cost= 0.034303162
Epoch: 2284 cost= 0.035416380
Epoch: 2285 cost= 0.035129923
Epoch: 2286 cost= 0.035593037
```

```
Epoch: 2287 cost= 0.034542248
Epoch: 2288 cost= 0.035583477
Epoch: 2289 cost= 0.037239954
Epoch: 2290 cost= 0.034308992
Epoch: 2291 cost= 0.036375299
Epoch: 2292 cost= 0.037602298
Epoch: 2293 cost= 0.035164308
Epoch: 2294 cost= 0.035646170
Epoch: 2295 cost= 0.036358625
Epoch: 2296 cost= 0.037491530
Epoch: 2297 cost= 0.036896840
Epoch: 2298 cost= 0.035678741
Epoch: 2299 cost= 0.034926541
Epoch: 2300 cost= 0.036233280
Epoch: 2301 cost= 0.036272936
Epoch: 2302 cost= 0.035046872
Epoch: 2303 cost= 0.034745473
Epoch: 2304 cost= 0.035558131
Epoch: 2305 cost= 0.035189666
Epoch: 2306 cost= 0.035237465
Epoch: 2307 cost= 0.034852367
Epoch: 2308 cost= 0.036161359
Epoch: 2309 cost= 0.037483696
Epoch: 2310 cost= 0.037534114
```

```
Epoch: 2311 cost= 0.036529604
Epoch: 2312 cost= 0.034471899
Epoch: 2313 cost= 0.036234368
Epoch: 2314 cost= 0.038781807
Epoch: 2315 cost= 0.037874382
Epoch: 2316 cost= 0.033909913
Epoch: 2317 cost= 0.037635550
Epoch: 2318 cost= 0.034971528
Epoch: 2319 cost= 0.036585599
Epoch: 2320 cost= 0.035843231
Epoch: 2321 cost= 0.036794774
Epoch: 2322 cost= 0.037011415
Epoch: 2323 cost= 0.037481066
Epoch: 2324 cost= 0.037117273
Epoch: 2325 cost= 0.036306273
Epoch: 2326 cost= 0.034482021
Epoch: 2327 cost= 0.035273690
Epoch: 2328 cost= 0.035428271
Epoch: 2329 cost= 0.036298905
Epoch: 2330 cost= 0.034725349
Epoch: 2331 cost= 0.036832694
Epoch: 2332 cost= 0.034852695
Epoch: 2333 cost= 0.036150936
Epoch: 2334 cost= 0.036347035
```

```
Epoch: 2335 cost= 0.036095623
Epoch: 2336 cost= 0.036320779
Epoch: 2337 cost= 0.036420435
Epoch: 2338 cost= 0.035537682
Epoch: 2339 cost= 0.034328852
Epoch: 2340 cost= 0.035942353
Epoch: 2341 cost= 0.034428414
Epoch: 2342 cost= 0.035126373
Epoch: 2343 cost= 0.035734385
Epoch: 2344 cost= 0.036685910
Epoch: 2345 cost= 0.035031062
Epoch: 2346 cost= 0.038133647
Epoch: 2347 cost= 0.036039293
Epoch: 2348 cost= 0.036367334
Epoch: 2349 cost= 0.036579739
Epoch: 2350 cost= 0.036949426
Epoch: 2351 cost= 0.034857463
Epoch: 2352 cost= 0.034494564
Epoch: 2353 cost= 0.037533138
Epoch: 2354 cost= 0.035714786
Epoch: 2355 cost= 0.035829693
Epoch: 2356 cost= 0.036516096
Epoch: 2357 cost= 0.034891963
Epoch: 2358 cost= 0.035759959
```

```
Epoch: 2359 cost= 0.034550715
Epoch: 2360 cost= 0.036649011
Epoch: 2361 cost= 0.036779981
Epoch: 2362 cost= 0.035749290
Epoch: 2363 cost= 0.036180478
Epoch: 2364 cost= 0.034665961
Epoch: 2365 cost= 0.033969354
Epoch: 2366 cost= 0.034209613
Epoch: 2367 cost= 0.035760537
Epoch: 2368 cost= 0.035090610
Epoch: 2369 cost= 0.033383962
Epoch: 2370 cost= 0.035609618
Epoch: 2371 cost= 0.035716761
Epoch: 2372 cost= 0.034740511
Epoch: 2373 cost= 0.035183761
Epoch: 2374 cost= 0.034350220
Epoch: 2375 cost= 0.035929285
Epoch: 2376 cost= 0.037491515
Epoch: 2377 cost= 0.037548982
Epoch: 2378 cost= 0.036074240
Epoch: 2379 cost= 0.034286451
Epoch: 2380 cost= 0.034184072
Epoch: 2381 cost= 0.037057430
Epoch: 2382 cost= 0.037599564
```

```
Epoch: 2383 cost= 0.036079437
Epoch: 2384 cost= 0.035117995
Epoch: 2385 cost= 0.036961533
Epoch: 2386 cost= 0.038095582
Epoch: 2387 cost= 0.035443723
Epoch: 2388 cost= 0.033986744
Epoch: 2389 cost= 0.035461176
Epoch: 2390 cost= 0.037542280
Epoch: 2391 cost= 0.038316377
Epoch: 2392 cost= 0.035840008
Epoch: 2393 cost= 0.037599664
Epoch: 2394 cost= 0.034679446
Epoch: 2395 cost= 0.034828939
Epoch: 2396 cost= 0.037287727
Epoch: 2397 cost= 0.037236724
Epoch: 2398 cost= 0.035111401
Epoch: 2399 cost= 0.035362240
Epoch: 2400 cost= 0.035386965
Epoch: 2401 cost= 0.036436893
Epoch: 2402 cost= 0.034975123
Epoch: 2403 cost= 0.036514997
Epoch: 2404 cost= 0.032194346
Epoch: 2405 cost= 0.033900425
Epoch: 2406 cost= 0.035897583
```

```
Epoch: 2407 cost= 0.035463873
Epoch: 2408 cost= 0.035495199
Epoch: 2409 cost= 0.038860943
Epoch: 2410 cost= 0.036260862
Epoch: 2411 cost= 0.036008537
Epoch: 2412 cost= 0.037084356
Epoch: 2413 cost= 0.037188996
Epoch: 2414 cost= 0.035751697
Epoch: 2415 cost= 0.034904975
Epoch: 2416 cost= 0.035171967
Epoch: 2417 cost= 0.038084760
Epoch: 2418 cost= 0.035329595
Epoch: 2419 cost= 0.035886936
Epoch: 2420 cost= 0.036252629
Epoch: 2421 cost= 0.034900662
Epoch: 2422 cost= 0.036745232
Epoch: 2423 cost= 0.034591179
Epoch: 2424 cost= 0.034636859
Epoch: 2425 cost= 0.036862120
Epoch: 2426 cost= 0.036758211
Epoch: 2427 cost= 0.035653688
Epoch: 2428 cost= 0.036946252
Epoch: 2429 cost= 0.034763820
Epoch: 2430 cost= 0.035197984
```

```
Epoch: 2431 cost= 0.035697918
Epoch: 2432 cost= 0.035954304
Epoch: 2433 cost= 0.035271574
Epoch: 2434 cost= 0.035058983
Epoch: 2435 cost= 0.035023075
Epoch: 2436 cost= 0.036524259
Epoch: 2437 cost= 0.034560993
Epoch: 2438 cost= 0.034491792
Epoch: 2439 cost= 0.035997801
Epoch: 2440 cost= 0.035279606
Epoch: 2441 cost= 0.033359975
Epoch: 2442 cost= 0.035815135
Epoch: 2443 cost= 0.034256235
Epoch: 2444 cost= 0.035647076
Epoch: 2445 cost= 0.037354544
Epoch: 2446 cost= 0.036587089
Epoch: 2447 cost= 0.036634140
Epoch: 2448 cost= 0.037448674
Epoch: 2449 cost= 0.034655474
Epoch: 2450 cost= 0.035154972
Epoch: 2451 cost= 0.036782466
Epoch: 2452 cost= 0.034897905
Epoch: 2453 cost= 0.034462743
Epoch: 2454 cost= 0.035042640
```

```
Epoch: 2455 cost= 0.037395701
Epoch: 2456 cost= 0.034281291
Epoch: 2457 cost= 0.035098776
Epoch: 2458 cost= 0.037089873
Epoch: 2459 cost= 0.035515573
Epoch: 2460 cost= 0.035867065
Epoch: 2461 cost= 0.035135329
Epoch: 2462 cost= 0.034754440
Epoch: 2463 cost= 0.036764383
Epoch: 2464 cost= 0.037061825
Epoch: 2465 cost= 0.033673719
Epoch: 2466 cost= 0.036614038
Epoch: 2467 cost= 0.034716234
Epoch: 2468 cost= 0.037696965
Epoch: 2469 cost= 0.035361525
Epoch: 2470 cost= 0.035425376
Epoch: 2471 cost= 0.036254726
Epoch: 2472 cost= 0.036467504
Epoch: 2473 cost= 0.038789190
Epoch: 2474 cost= 0.034999546
Epoch: 2475 cost= 0.036575455
Epoch: 2476 cost= 0.038740739
Epoch: 2477 cost= 0.035623148
Epoch: 2478 cost= 0.034543071
```

```
Epoch: 2479 cost= 0.035146173
Epoch: 2480 cost= 0.036603354
Epoch: 2481 cost= 0.035392597
Epoch: 2482 cost= 0.037118852
Epoch: 2483 cost= 0.035825640
Epoch: 2484 cost= 0.035696775
Epoch: 2485 cost= 0.036522985
Epoch: 2486 cost= 0.034246758
Epoch: 2487 cost= 0.036825504
Epoch: 2488 cost= 0.035049729
Epoch: 2489 cost= 0.037257995
Epoch: 2490 cost= 0.035024177
Epoch: 2491 cost= 0.034744672
Epoch: 2492 cost= 0.034496415
Epoch: 2493 cost= 0.034385942
Epoch: 2494 cost= 0.036837373
Epoch: 2495 cost= 0.036908720
Epoch: 2496 cost= 0.034062531
Epoch: 2497 cost= 0.036207732
Epoch: 2498 cost= 0.036191337
Epoch: 2499 cost= 0.035224546
Epoch: 2500 cost= 0.036490228
Epoch: 2501 cost= 0.037641719
Epoch: 2502 cost= 0.036798440
```

```
Epoch: 2503 cost= 0.036476284
Epoch: 2504 cost= 0.035294563
Epoch: 2505 cost= 0.038610160
Epoch: 2506 cost= 0.035381462
Epoch: 2507 cost= 0.035781432
Epoch: 2508 cost= 0.036374293
Epoch: 2509 cost= 0.034826435
Epoch: 2510 cost= 0.035070684
Epoch: 2511 cost= 0.036237057
Epoch: 2512 cost= 0.035336759
Epoch: 2513 cost= 0.034198385
Epoch: 2514 cost= 0.034208804
Epoch: 2515 cost= 0.035818595
Epoch: 2516 cost= 0.033698577
Epoch: 2517 cost= 0.035880353
Epoch: 2518 cost= 0.035524562
Epoch: 2519 cost= 0.035880886
Epoch: 2520 cost= 0.038449313
Epoch: 2521 cost= 0.037689239
Epoch: 2522 cost= 0.033969190
Epoch: 2523 cost= 0.036052302
Epoch: 2524 cost= 0.035429012
Epoch: 2525 cost= 0.035681304
Epoch: 2526 cost= 0.037451703
```

```
Epoch: 2527 cost= 0.035022222
Epoch: 2528 cost= 0.036604572
Epoch: 2529 cost= 0.035944387
Epoch: 2530 cost= 0.035189342
Epoch: 2531 cost= 0.035976972
Epoch: 2532 cost= 0.035962030
Epoch: 2533 cost= 0.036789205
Epoch: 2534 cost= 0.036006197
Epoch: 2535 cost= 0.034843057
Epoch: 2536 cost= 0.034645766
Epoch: 2537 cost= 0.035006292
Epoch: 2538 cost= 0.034903944
Epoch: 2539 cost= 0.035290226
Epoch: 2540 cost= 0.035919949
Epoch: 2541 cost= 0.035057671
Epoch: 2542 cost= 0.037800197
Epoch: 2543 cost= 0.035467606
Epoch: 2544 cost= 0.035493258
Epoch: 2545 cost= 0.035204962
Epoch: 2546 cost= 0.033678696
Epoch: 2547 cost= 0.036364902
Epoch: 2548 cost= 0.034409553
Epoch: 2549 cost= 0.036725987
Epoch: 2550 cost= 0.034317587
```

```
Epoch: 2551 cost= 0.036890045
Epoch: 2552 cost= 0.033542752
Epoch: 2553 cost= 0.035526980
Epoch: 2554 cost= 0.034803275
Epoch: 2555 cost= 0.036894765
Epoch: 2556 cost= 0.035341464
Epoch: 2557 cost= 0.036763147
Epoch: 2558 cost= 0.033940382
Epoch: 2559 cost= 0.036262602
Epoch: 2560 cost= 0.036034137
Epoch: 2561 cost= 0.036560692
Epoch: 2562 cost= 0.036099561
Epoch: 2563 cost= 0.035427362
Epoch: 2564 cost= 0.034557920
Epoch: 2565 cost= 0.033989467
Epoch: 2566 cost= 0.036087159
Epoch: 2567 cost= 0.033472173
Epoch: 2568 cost= 0.036203686
Epoch: 2569 cost= 0.033940136
Epoch: 2570 cost= 0.034577981
Epoch: 2571 cost= 0.034753919
Epoch: 2572 cost= 0.036527913
Epoch: 2573 cost= 0.035003394
Epoch: 2574 cost= 0.037008666
```

```
Epoch: 2575 cost= 0.035192478
Epoch: 2576 cost= 0.037195526
Epoch: 2577 cost= 0.035011768
Epoch: 2578 cost= 0.034175098
Epoch: 2579 cost= 0.035858251
Epoch: 2580 cost= 0.036592782
Epoch: 2581 cost= 0.036453713
Epoch: 2582 cost= 0.034199063
Epoch: 2583 cost= 0.034516241
Epoch: 2584 cost= 0.036947075
Epoch: 2585 cost= 0.035966322
Epoch: 2586 cost= 0.036138434
Epoch: 2587 cost= 0.036158513
Epoch: 2588 cost= 0.036205627
Epoch: 2589 cost= 0.035873257
Epoch: 2590 cost= 0.033891037
Epoch: 2591 cost= 0.036112595
Epoch: 2592 cost= 0.035775155
Epoch: 2593 cost= 0.034119885
Epoch: 2594 cost= 0.036605507
Epoch: 2595 cost= 0.036342099
Epoch: 2596 cost= 0.037271701
Epoch: 2597 cost= 0.035868149
Epoch: 2598 cost= 0.035295989
```

```
Epoch: 2599 cost= 0.035017051
Epoch: 2600 cost= 0.035447329
Epoch: 2601 cost= 0.034311745
Epoch: 2602 cost= 0.035649199
Epoch: 2603 cost= 0.036052741
Epoch: 2604 cost= 0.038391579
Epoch: 2605 cost= 0.036253519
Epoch: 2606 cost= 0.037900820
Epoch: 2607 cost= 0.034626812
Epoch: 2608 cost= 0.034750100
Epoch: 2609 cost= 0.035645474
Epoch: 2610 cost= 0.036182307
Epoch: 2611 cost= 0.036455065
Epoch: 2612 cost= 0.036093459
Epoch: 2613 cost= 0.037324980
Epoch: 2614 cost= 0.036840573
Epoch: 2615 cost= 0.035882153
Epoch: 2616 cost= 0.036106497
Epoch: 2617 cost= 0.035888661
Epoch: 2618 cost= 0.035577014
Epoch: 2619 cost= 0.035559401
Epoch: 2620 cost= 0.036370311
Epoch: 2621 cost= 0.035990648
Epoch: 2622 cost= 0.034843948
```

```
Epoch: 2623 cost= 0.035517912
Epoch: 2624 cost= 0.035599660
Epoch: 2625 cost= 0.035042398
Epoch: 2626 cost= 0.039386418
Epoch: 2627 cost= 0.036164466
Epoch: 2628 cost= 0.037204288
Epoch: 2629 cost= 0.035506070
Epoch: 2630 cost= 0.035637390
Epoch: 2631 cost= 0.036968570
Epoch: 2632 cost= 0.037445515
Epoch: 2633 cost= 0.034411158
Epoch: 2634 cost= 0.035156153
Epoch: 2635 cost= 0.038738161
Epoch: 2636 cost= 0.034580119
Epoch: 2637 cost= 0.036538396
Epoch: 2638 cost= 0.035443887
Epoch: 2639 cost= 0.035928257
Epoch: 2640 cost= 0.035437673
Epoch: 2641 cost= 0.034499150
Epoch: 2642 cost= 0.034928080
Epoch: 2643 cost= 0.035938036
Epoch: 2644 cost= 0.037543084
Epoch: 2645 cost= 0.035449531
Epoch: 2646 cost= 0.035751499
```

```
Epoch: 2647 cost= 0.035306618
Epoch: 2648 cost= 0.036805823
Epoch: 2649 cost= 0.033743255
Epoch: 2650 cost= 0.035738114
Epoch: 2651 cost= 0.035596784
Epoch: 2652 cost= 0.037518427
Epoch: 2653 cost= 0.036580950
Epoch: 2654 cost= 0.033034459
Epoch: 2655 cost= 0.035906702
Epoch: 2656 cost= 0.037434850
Epoch: 2657 cost= 0.035500292
Epoch: 2658 cost= 0.036272280
Epoch: 2659 cost= 0.035898548
Epoch: 2660 cost= 0.036604673
Epoch: 2661 cost= 0.035649739
Epoch: 2662 cost= 0.034595907
Epoch: 2663 cost= 0.035289146
Epoch: 2664 cost= 0.036297947
Epoch: 2665 cost= 0.035518419
Epoch: 2666 cost= 0.036926616
Epoch: 2667 cost= 0.036304392
Epoch: 2668 cost= 0.035737090
Epoch: 2669 cost= 0.036173783
Epoch: 2670 cost= 0.033873446
```

```
Epoch: 2671 cost= 0.037500445
Epoch: 2672 cost= 0.036819793
Epoch: 2673 cost= 0.035455868
Epoch: 2674 cost= 0.035193600
Epoch: 2675 cost= 0.035960495
Epoch: 2676 cost= 0.035935335
Epoch: 2677 cost= 0.038494624
Epoch: 2678 cost= 0.037626542
Epoch: 2679 cost= 0.035381068
Epoch: 2680 cost= 0.036184832
Epoch: 2681 cost= 0.035891883
Epoch: 2682 cost= 0.035337325
Epoch: 2683 cost= 0.033413861
Epoch: 2684 cost= 0.035021294
Epoch: 2685 cost= 0.035344690
Epoch: 2686 cost= 0.035420164
Epoch: 2687 cost= 0.035344202
Epoch: 2688 cost= 0.037059147
Epoch: 2689 cost= 0.036191177
Epoch: 2690 cost= 0.036121685
Epoch: 2691 cost= 0.037007984
Epoch: 2692 cost= 0.033859998
Epoch: 2693 cost= 0.034941372
Epoch: 2694 cost= 0.033804100
```

```
Epoch: 2695 cost= 0.033866908
Epoch: 2696 cost= 0.035001490
Epoch: 2697 cost= 0.035285771
Epoch: 2698 cost= 0.036706984
Epoch: 2699 cost= 0.037004095
Epoch: 2700 cost= 0.035035811
Epoch: 2701 cost= 0.035780430
Epoch: 2702 cost= 0.036566395
Epoch: 2703 cost= 0.036386352
Epoch: 2704 cost= 0.035369888
Epoch: 2705 cost= 0.035417337
Epoch: 2706 cost= 0.035662718
Epoch: 2707 cost= 0.036262136
Epoch: 2708 cost= 0.034884091
Epoch: 2709 cost= 0.032871198
Epoch: 2710 cost= 0.036214571
Epoch: 2711 cost= 0.035391804
Epoch: 2712 cost= 0.035688061
Epoch: 2713 cost= 0.035943903
Epoch: 2714 cost= 0.036255758
Epoch: 2715 cost= 0.034705628
Epoch: 2716 cost= 0.037657991
Epoch: 2717 cost= 0.034870680
Epoch: 2718 cost= 0.036314506
```

```
Epoch: 2719 cost= 0.034025908
Epoch: 2720 cost= 0.035912707
Epoch: 2721 cost= 0.035392575
Epoch: 2722 cost= 0.035583824
Epoch: 2723 cost= 0.035941482
Epoch: 2724 cost= 0.035014220
Epoch: 2725 cost= 0.037710033
Epoch: 2726 cost= 0.034467936
Epoch: 2727 cost= 0.034679607
Epoch: 2728 cost= 0.036527805
Epoch: 2729 cost= 0.034716982
Epoch: 2730 cost= 0.035114188
Epoch: 2731 cost= 0.035993908
Epoch: 2732 cost= 0.035283674
Epoch: 2733 cost= 0.035468336
Epoch: 2734 cost= 0.036840953
Epoch: 2735 cost= 0.037100840
Epoch: 2736 cost= 0.035466783
Epoch: 2737 cost= 0.036044706
Epoch: 2738 cost= 0.034916535
Epoch: 2739 cost= 0.031653851
Epoch: 2740 cost= 0.033729646
Epoch: 2741 cost= 0.035769779
Epoch: 2742 cost= 0.036330633
```

```
Epoch: 2743 cost= 0.035448447
Epoch: 2744 cost= 0.036121968
Epoch: 2745 cost= 0.036989711
Epoch: 2746 cost= 0.034665387
Epoch: 2747 cost= 0.034660377
Epoch: 2748 cost= 0.036806315
Epoch: 2749 cost= 0.035031319
Epoch: 2750 cost= 0.035520501
Epoch: 2751 cost= 0.036923446
Epoch: 2752 cost= 0.034121219
Epoch: 2753 cost= 0.038585499
Epoch: 2754 cost= 0.034997854
Epoch: 2755 cost= 0.036711585
Epoch: 2756 cost= 0.034839042
Epoch: 2757 cost= 0.035513945
Epoch: 2758 cost= 0.036220420
Epoch: 2759 cost= 0.036075119
Epoch: 2760 cost= 0.036205113
Epoch: 2761 cost= 0.033599123
Epoch: 2762 cost= 0.035480976
Epoch: 2763 cost= 0.035826031
Epoch: 2764 cost= 0.035682742
Epoch: 2765 cost= 0.036804784
Epoch: 2766 cost= 0.034431722
```

```
Epoch: 2767 cost= 0.035796072
Epoch: 2768 cost= 0.036454614
Epoch: 2769 cost= 0.034542058
Epoch: 2770 cost= 0.035129134
Epoch: 2771 cost= 0.036121514
Epoch: 2772 cost= 0.035995197
Epoch: 2773 cost= 0.036472209
Epoch: 2774 cost= 0.036570799
Epoch: 2775 cost= 0.035049740
Epoch: 2776 cost= 0.035758469
Epoch: 2777 cost= 0.034777679
Epoch: 2778 cost= 0.035275765
Epoch: 2779 cost= 0.036075428
Epoch: 2780 cost= 0.036362000
Epoch: 2781 cost= 0.034621973
Epoch: 2782 cost= 0.035735052
Epoch: 2783 cost= 0.034344930
Epoch: 2784 cost= 0.036164790
Epoch: 2785 cost= 0.038832717
Epoch: 2786 cost= 0.035742693
Epoch: 2787 cost= 0.035333298
Epoch: 2788 cost= 0.035728943
Epoch: 2789 cost= 0.035038315
Epoch: 2790 cost= 0.036664475
```

```
Epoch: 2791 cost= 0.033349421
Epoch: 2792 cost= 0.036322981
Epoch: 2793 cost= 0.036543872
Epoch: 2794 cost= 0.036425985
Epoch: 2795 cost= 0.035013996
Epoch: 2796 cost= 0.035633273
Epoch: 2797 cost= 0.036946822
Epoch: 2798 cost= 0.035497058
Epoch: 2799 cost= 0.036229763
Epoch: 2800 cost= 0.036056817
Epoch: 2801 cost= 0.037160948
Epoch: 2802 cost= 0.034597922
Epoch: 2803 cost= 0.033753037
Epoch: 2804 cost= 0.035005145
Epoch: 2805 cost= 0.036372215
Epoch: 2806 cost= 0.035451777
Epoch: 2807 cost= 0.036243815
Epoch: 2808 cost= 0.033700306
Epoch: 2809 cost= 0.035724670
Epoch: 2810 cost= 0.035342790
Epoch: 2811 cost= 0.035703257
Epoch: 2812 cost= 0.034466572
Epoch: 2813 cost= 0.038146179
Epoch: 2814 cost= 0.036177479
```

```
Epoch: 2815 cost= 0.034577288
Epoch: 2816 cost= 0.035952162
Epoch: 2817 cost= 0.036139034
Epoch: 2818 cost= 0.037410215
Epoch: 2819 cost= 0.035561793
Epoch: 2820 cost= 0.034774322
Epoch: 2821 cost= 0.035376482
Epoch: 2822 cost= 0.035450190
Epoch: 2823 cost= 0.036234993
Epoch: 2824 cost= 0.035602108
Epoch: 2825 cost= 0.036702506
Epoch: 2826 cost= 0.036631357
Epoch: 2827 cost= 0.035376474
Epoch: 2828 cost= 0.035603233
Epoch: 2829 cost= 0.033481468
Epoch: 2830 cost= 0.036066957
Epoch: 2831 cost= 0.037961580
Epoch: 2832 cost= 0.036296949
Epoch: 2833 cost= 0.034929145
Epoch: 2834 cost= 0.036127809
Epoch: 2835 cost= 0.037023615
Epoch: 2836 cost= 0.037262853
Epoch: 2837 cost= 0.037530027
Epoch: 2838 cost= 0.035847794
```

```
Epoch: 2839 cost= 0.035286345
Epoch: 2840 cost= 0.033841044
Epoch: 2841 cost= 0.036470767
Epoch: 2842 cost= 0.035036411
Epoch: 2843 cost= 0.035049655
Epoch: 2844 cost= 0.036831304
Epoch: 2845 cost= 0.034685984
Epoch: 2846 cost= 0.035654876
Epoch: 2847 cost= 0.037119783
Epoch: 2848 cost= 0.035134207
Epoch: 2849 cost= 0.037352536
Epoch: 2850 cost= 0.035719797
Epoch: 2851 cost= 0.037068456
Epoch: 2852 cost= 0.033771098
Epoch: 2853 cost= 0.036808338
Epoch: 2854 cost= 0.034458380
Epoch: 2855 cost= 0.035026792
Epoch: 2856 cost= 0.036120813
Epoch: 2857 cost= 0.035092294
Epoch: 2858 cost= 0.034422547
Epoch: 2859 cost= 0.037325822
Epoch: 2860 cost= 0.034055684
Epoch: 2861 cost= 0.036174487
Epoch: 2862 cost= 0.036591716
```

```
Epoch: 2863 cost= 0.034044228
Epoch: 2864 cost= 0.037759691
Epoch: 2865 cost= 0.036149185
Epoch: 2866 cost= 0.036109984
Epoch: 2867 cost= 0.034737457
Epoch: 2868 cost= 0.036920678
Epoch: 2869 cost= 0.036924284
Epoch: 2870 cost= 0.033378080
Epoch: 2871 cost= 0.036090098
Epoch: 2872 cost= 0.036157936
Epoch: 2873 cost= 0.034910187
Epoch: 2874 cost= 0.034855224
Epoch: 2875 cost= 0.034575734
Epoch: 2876 cost= 0.036020573
Epoch: 2877 cost= 0.034525301
Epoch: 2878 cost= 0.035043027
Epoch: 2879 cost= 0.035141766
Epoch: 2880 cost= 0.037679829
Epoch: 2881 cost= 0.037267555
Epoch: 2882 cost= 0.036163494
Epoch: 2883 cost= 0.035827786
Epoch: 2884 cost= 0.037432890
Epoch: 2885 cost= 0.035567626
Epoch: 2886 cost= 0.037061647
```

```
Epoch: 2887 cost= 0.036932562
Epoch: 2888 cost= 0.034780912
Epoch: 2889 cost= 0.036878251
Epoch: 2890 cost= 0.037237570
Epoch: 2891 cost= 0.037034996
Epoch: 2892 cost= 0.036479436
Epoch: 2893 cost= 0.036372382
Epoch: 2894 cost= 0.036304336
Epoch: 2895 cost= 0.034462597
Epoch: 2896 cost= 0.036815133
Epoch: 2897 cost= 0.036406532
Epoch: 2898 cost= 0.035196427
Epoch: 2899 cost= 0.034024965
Epoch: 2900 cost= 0.034218412
Epoch: 2901 cost= 0.035810053
Epoch: 2902 cost= 0.035612859
Epoch: 2903 cost= 0.034190420
Epoch: 2904 cost= 0.035436075
Epoch: 2905 cost= 0.034403294
Epoch: 2906 cost= 0.036887642
Epoch: 2907 cost= 0.034453087
Epoch: 2908 cost= 0.035635818
Epoch: 2909 cost= 0.036804132
Epoch: 2910 cost= 0.035220247
```

```
Epoch: 2911 cost= 0.036182266
Epoch: 2912 cost= 0.035093524
Epoch: 2913 cost= 0.036302906
Epoch: 2914 cost= 0.037483193
Epoch: 2915 cost= 0.038487960
Epoch: 2916 cost= 0.034509759
Epoch: 2917 cost= 0.035420142
Epoch: 2918 cost= 0.036282133
Epoch: 2919 cost= 0.034651980
Epoch: 2920 cost= 0.035167571
Epoch: 2921 cost= 0.035250012
Epoch: 2922 cost= 0.037527844
Epoch: 2923 cost= 0.035465498
Epoch: 2924 cost= 0.037681997
Epoch: 2925 cost= 0.034154035
Epoch: 2926 cost= 0.035419222
Epoch: 2927 cost= 0.035727538
Epoch: 2928 cost= 0.037668165
Epoch: 2929 cost= 0.035667256
Epoch: 2930 cost= 0.034980923
Epoch: 2931 cost= 0.037956610
Epoch: 2932 cost= 0.035127733
Epoch: 2933 cost= 0.037215672
Epoch: 2934 cost= 0.033351395
```

```
Epoch: 2935 cost= 0.037325218
Epoch: 2936 cost= 0.033005822
Epoch: 2937 cost= 0.036684353
Epoch: 2938 cost= 0.036120590
Epoch: 2939 cost= 0.035360783
Epoch: 2940 cost= 0.036659367
Epoch: 2941 cost= 0.033615880
Epoch: 2942 cost= 0.036142170
Epoch: 2943 cost= 0.034708753
Epoch: 2944 cost= 0.036938425
Epoch: 2945 cost= 0.036160633
Epoch: 2946 cost= 0.035435650
Epoch: 2947 cost= 0.034915023
Epoch: 2948 cost= 0.034153968
Epoch: 2949 cost= 0.036460426
Epoch: 2950 cost= 0.037632015
Epoch: 2951 cost= 0.036057603
Epoch: 2952 cost= 0.036873471
Epoch: 2953 cost= 0.035189651
Epoch: 2954 cost= 0.036417257
Epoch: 2955 cost= 0.036790613
Epoch: 2956 cost= 0.036602084
Epoch: 2957 cost= 0.034849878
Epoch: 2958 cost= 0.036723848
```

```
Epoch: 2959 cost= 0.036595888
Epoch: 2960 cost= 0.034962252
Epoch: 2961 cost= 0.036838979
Epoch: 2962 cost= 0.036987875
Epoch: 2963 cost= 0.037053853
Epoch: 2964 cost= 0.036766153
Epoch: 2965 cost= 0.036185604
Epoch: 2966 cost= 0.035013862
Epoch: 2967 cost= 0.035468392
Epoch: 2968 cost= 0.033700250
Epoch: 2969 cost= 0.034278512
Epoch: 2970 cost= 0.036125612
Epoch: 2971 cost= 0.037035633
Epoch: 2972 cost= 0.033137321
Epoch: 2973 cost= 0.036202274
Epoch: 2974 cost= 0.034953732
Epoch: 2975 cost= 0.036224615
Epoch: 2976 cost= 0.034008667
Epoch: 2977 cost= 0.034921192
Epoch: 2978 cost= 0.036352858
Epoch: 2979 cost= 0.033370070
Epoch: 2980 cost= 0.032936722
Epoch: 2981 cost= 0.037098229
Epoch: 2982 cost= 0.034333184
```

```
Epoch: 2983 cost= 0.036812302
Epoch: 2984 cost= 0.033584658
Epoch: 2985 cost= 0.035004970
Epoch: 2986 cost= 0.037567377
Epoch: 2987 cost= 0.034878377
Epoch: 2988 cost= 0.036902361
Epoch: 2989 cost= 0.037338618
Epoch: 2990 cost= 0.034934215
Epoch: 2991 cost= 0.035767823
Epoch: 2992 cost= 0.036770403
Epoch: 2993 cost= 0.036577027
Epoch: 2994 cost= 0.034434117
Epoch: 2995 cost= 0.036485564
Epoch: 2996 cost= 0.034441918
Epoch: 2997 cost= 0.035031203
Epoch: 2998 cost= 0.035652671
Epoch: 2999 cost= 0.036281567
Epoch: 3000 cost= 0.032944910
Epoch: 3001 cost= 0.035881534
Epoch: 3002 cost= 0.034060054
Epoch: 3003 cost= 0.034538478
Epoch: 3004 cost= 0.035735153
Epoch: 3005 cost= 0.035654582
Epoch: 3006 cost= 0.035809468
```

```
Epoch: 3007 cost= 0.032707982
Epoch: 3008 cost= 0.036194928
Epoch: 3009 cost= 0.035549544
Epoch: 3010 cost= 0.035906546
Epoch: 3011 cost= 0.036651958
Epoch: 3012 cost= 0.034030505
Epoch: 3013 cost= 0.034991778
Epoch: 3014 cost= 0.036200684
Epoch: 3015 cost= 0.034945458
Epoch: 3016 cost= 0.033866085
Epoch: 3017 cost= 0.035591498
Epoch: 3018 cost= 0.034185898
Epoch: 3019 cost= 0.034872506
Epoch: 3020 cost= 0.035853248
Epoch: 3021 cost= 0.036599256
Epoch: 3022 cost= 0.035024181
Epoch: 3023 cost= 0.036083084
Epoch: 3024 cost= 0.036931209
Epoch: 3025 cost= 0.035829160
Epoch: 3026 cost= 0.035952643
Epoch: 3027 cost= 0.034997314
Epoch: 3028 cost= 0.036079150
Epoch: 3029 cost= 0.035833910
Epoch: 3030 cost= 0.035264399
```

```
Epoch: 3031 cost= 0.036296349
Epoch: 3032 cost= 0.036500856
Epoch: 3033 cost= 0.035066579
Epoch: 3034 cost= 0.035318166
Epoch: 3035 cost= 0.033576626
Epoch: 3036 cost= 0.034060363
Epoch: 3037 cost= 0.035565056
Epoch: 3038 cost= 0.034373231
Epoch: 3039 cost= 0.035898611
Epoch: 3040 cost= 0.034958426
Epoch: 3041 cost= 0.033527076
Epoch: 3042 cost= 0.037410866
Epoch: 3043 cost= 0.036337681
Epoch: 3044 cost= 0.036646828
Epoch: 3045 cost= 0.034891713
Epoch: 3046 cost= 0.036914077
Epoch: 3047 cost= 0.036038991
Epoch: 3048 cost= 0.034660202
Epoch: 3049 cost= 0.035536449
Epoch: 3050 cost= 0.035354588
Epoch: 3051 cost= 0.033412479
Epoch: 3052 cost= 0.034455806
Epoch: 3053 cost= 0.031952243
Epoch: 3054 cost= 0.034558766
```

```
Epoch: 3055 cost= 0.036016390
Epoch: 3056 cost= 0.034617662
Epoch: 3057 cost= 0.034687053
Epoch: 3058 cost= 0.035202425
Epoch: 3059 cost= 0.033803578
Epoch: 3060 cost= 0.034667630
Epoch: 3061 cost= 0.035018321
Epoch: 3062 cost= 0.034244448
Epoch: 3063 cost= 0.034248859
Epoch: 3064 cost= 0.036376759
Epoch: 3065 cost= 0.032877300
Epoch: 3066 cost= 0.032749362
Epoch: 3067 cost= 0.034006149
Epoch: 3068 cost= 0.033821344
Epoch: 3069 cost= 0.036468066
Epoch: 3070 cost= 0.036369473
Epoch: 3071 cost= 0.034121569
Epoch: 3072 cost= 0.035737943
Epoch: 3073 cost= 0.035370078
Epoch: 3074 cost= 0.033779912
Epoch: 3075 cost= 0.036165025
Epoch: 3076 cost= 0.034626044
Epoch: 3077 cost= 0.033897765
Epoch: 3078 cost= 0.033731379
```

```
Epoch: 3079 cost= 0.035580415
Epoch: 3080 cost= 0.034851316
Epoch: 3081 cost= 0.034182422
Epoch: 3082 cost= 0.037024725
Epoch: 3083 cost= 0.034094211
Epoch: 3084 cost= 0.036007259
Epoch: 3085 cost= 0.034574427
Epoch: 3086 cost= 0.032747999
Epoch: 3087 cost= 0.033406738
Epoch: 3088 cost= 0.033934128
Epoch: 3089 cost= 0.034184489
Epoch: 3090 cost= 0.032187346
Epoch: 3091 cost= 0.032333158
Epoch: 3092 cost= 0.031924985
Epoch: 3093 cost= 0.034781292
Epoch: 3094 cost= 0.031933863
Epoch: 3095 cost= 0.036213372
Epoch: 3096 cost= 0.034864187
Epoch: 3097 cost= 0.036035631
Epoch: 3098 cost= 0.032926153
Epoch: 3099 cost= 0.033421367
Epoch: 3100 cost= 0.033808753
Epoch: 3101 cost= 0.035100721
Epoch: 3102 cost= 0.034983136
```

```
Epoch: 3103 cost= 0.035860274
Epoch: 3104 cost= 0.034032375
Epoch: 3105 cost= 0.034187060
Epoch: 3106 cost= 0.036716767
Epoch: 3107 cost= 0.036196791
Epoch: 3108 cost= 0.036148340
Epoch: 3109 cost= 0.034956824
Epoch: 3110 cost= 0.033755463
Epoch: 3111 cost= 0.034442585
Epoch: 3112 cost= 0.033789188
Epoch: 3113 cost= 0.034133699
Epoch: 3114 cost= 0.035382234
Epoch: 3115 cost= 0.035102174
Epoch: 3116 cost= 0.035435852
Epoch: 3117 cost= 0.034895781
Epoch: 3118 cost= 0.032196678
Epoch: 3119 cost= 0.034756999
Epoch: 3120 cost= 0.032992851
Epoch: 3121 cost= 0.035602503
Epoch: 3122 cost= 0.034302440
Epoch: 3123 cost= 0.034887459
Epoch: 3124 cost= 0.030959751
Epoch: 3125 cost= 0.033528436
Epoch: 3126 cost= 0.034613580
```

```
Epoch: 3127 cost= 0.032903701
Epoch: 3128 cost= 0.036296330
Epoch: 3129 cost= 0.034891434
Epoch: 3130 cost= 0.033245113
Epoch: 3131 cost= 0.035104692
Epoch: 3132 cost= 0.037481185
Epoch: 3133 cost= 0.034974650
Epoch: 3134 cost= 0.035898846
Epoch: 3135 cost= 0.036111742
Epoch: 3136 cost= 0.033516310
Epoch: 3137 cost= 0.034929939
Epoch: 3138 cost= 0.033743370
Epoch: 3139 cost= 0.034693222
Epoch: 3140 cost= 0.035002884
Epoch: 3141 cost= 0.034212444
Epoch: 3142 cost= 0.034684241
Epoch: 3143 cost= 0.035004508
Epoch: 3144 cost= 0.033695344
Epoch: 3145 cost= 0.032948606
Epoch: 3146 cost= 0.032969519
Epoch: 3147 cost= 0.036265768
Epoch: 3148 cost= 0.035737462
Epoch: 3149 cost= 0.034081969
Epoch: 3150 cost= 0.034068082
```

```
Epoch: 3151 cost= 0.033422336
Epoch: 3152 cost= 0.035580769
Epoch: 3153 cost= 0.033237796
Epoch: 3154 cost= 0.035249643
Epoch: 3155 cost= 0.034619529
Epoch: 3156 cost= 0.033827115
Epoch: 3157 cost= 0.033414830
Epoch: 3158 cost= 0.033632085
Epoch: 3159 cost= 0.036928829
Epoch: 3160 cost= 0.035099406
Epoch: 3161 cost= 0.032006729
Epoch: 3162 cost= 0.035170287
Epoch: 3163 cost= 0.033888198
Epoch: 3164 cost= 0.033114653
Epoch: 3165 cost= 0.034527630
Epoch: 3166 cost= 0.035127115
Epoch: 3167 cost= 0.034286901
Epoch: 3168 cost= 0.033912010
Epoch: 3169 cost= 0.033469558
Epoch: 3170 cost= 0.034372259
Epoch: 3171 cost= 0.035032969
Epoch: 3172 cost= 0.032753326
Epoch: 3173 cost= 0.035832539
Epoch: 3174 cost= 0.032024920
```

```
Epoch: 3175 cost= 0.033962969
Epoch: 3176 cost= 0.036519881
Epoch: 3177 cost= 0.035632528
Epoch: 3178 cost= 0.031720031
Epoch: 3179 cost= 0.033927474
Epoch: 3180 cost= 0.032197777
Epoch: 3181 cost= 0.035727579
Epoch: 3182 cost= 0.034391217
Epoch: 3183 cost= 0.035031520
Epoch: 3184 cost= 0.037325133
Epoch: 3185 cost= 0.034568243
Epoch: 3186 cost= 0.034442712
Epoch: 3187 cost= 0.035414562
Epoch: 3188 cost= 0.033673279
Epoch: 3189 cost= 0.034667250
Epoch: 3190 cost= 0.034909800
Epoch: 3191 cost= 0.036628321
Epoch: 3192 cost= 0.034430962
Epoch: 3193 cost= 0.036144629
Epoch: 3194 cost= 0.033646438
Epoch: 3195 cost= 0.033582661
Epoch: 3196 cost= 0.037668347
Epoch: 3197 cost= 0.035167575
Epoch: 3198 cost= 0.033886835
```

```
Epoch: 3199 cost= 0.033706509
Epoch: 3200 cost= 0.034671620
Epoch: 3201 cost= 0.033061404
Epoch: 3202 cost= 0.033788957
Epoch: 3203 cost= 0.033394780
Epoch: 3204 cost= 0.035137363
Epoch: 3205 cost= 0.033836719
Epoch: 3206 cost= 0.034472167
Epoch: 3207 cost= 0.035613362
Epoch: 3208 cost= 0.033993486
Epoch: 3209 cost= 0.033018880
Epoch: 3210 cost= 0.036200996
Epoch: 3211 cost= 0.034456279
Epoch: 3212 cost= 0.034285493
Epoch: 3213 cost= 0.035872012
Epoch: 3214 cost= 0.037431251
Epoch: 3215 cost= 0.034916151
Epoch: 3216 cost= 0.034642920
Epoch: 3217 cost= 0.035145201
Epoch: 3218 cost= 0.034123722
Epoch: 3219 cost= 0.031745080
Epoch: 3220 cost= 0.034617621
Epoch: 3221 cost= 0.035165768
Epoch: 3222 cost= 0.034462690
```

```
Epoch: 3223 cost= 0.036442723
Epoch: 3224 cost= 0.033858497
Epoch: 3225 cost= 0.032703131
Epoch: 3226 cost= 0.036031879
Epoch: 3227 cost= 0.033537544
Epoch: 3228 cost= 0.034510810
Epoch: 3229 cost= 0.035090998
Epoch: 3230 cost= 0.036417544
Epoch: 3231 cost= 0.033253882
Epoch: 3232 cost= 0.034615472
Epoch: 3233 cost= 0.034050547
Epoch: 3234 cost= 0.033490557
Epoch: 3235 cost= 0.034744855
Epoch: 3236 cost= 0.032697070
Epoch: 3237 cost= 0.033462759
Epoch: 3238 cost= 0.035358328
Epoch: 3239 cost= 0.036185578
Epoch: 3240 cost= 0.033336245
Epoch: 3241 cost= 0.034866747
Epoch: 3242 cost= 0.035214417
Epoch: 3243 cost= 0.035324834
Epoch: 3244 cost= 0.035619944
Epoch: 3245 cost= 0.035475358
Epoch: 3246 cost= 0.033079702
```

```
Epoch: 3247 cost= 0.036126126
Epoch: 3248 cost= 0.033429082
Epoch: 3249 cost= 0.036455192
Epoch: 3250 cost= 0.034772094
Epoch: 3251 cost= 0.034756202
Epoch: 3252 cost= 0.034246560
Epoch: 3253 cost= 0.034553863
Epoch: 3254 cost= 0.035004646
Epoch: 3255 cost= 0.033784289
Epoch: 3256 cost= 0.034739330
Epoch: 3257 cost= 0.036327187
Epoch: 3258 cost= 0.033464324
Epoch: 3259 cost= 0.035092659
Epoch: 3260 cost= 0.035399824
Epoch: 3261 cost= 0.035280216
Epoch: 3262 cost= 0.034045421
Epoch: 3263 cost= 0.034485027
Epoch: 3264 cost= 0.035648160
Epoch: 3265 cost= 0.034676276
Epoch: 3266 cost= 0.033453163
Epoch: 3267 cost= 0.037603948
Epoch: 3268 cost= 0.033688810
Epoch: 3269 cost= 0.036468882
Epoch: 3270 cost= 0.033557083
```

```
Epoch: 3271 cost= 0.035048664
Epoch: 3272 cost= 0.033489991
Epoch: 3273 cost= 0.037212614
Epoch: 3274 cost= 0.035171982
Epoch: 3275 cost= 0.034199096
Epoch: 3276 cost= 0.034302667
Epoch: 3277 cost= 0.031572789
Epoch: 3278 cost= 0.034126818
Epoch: 3279 cost= 0.035283759
Epoch: 3280 cost= 0.035299726
Epoch: 3281 cost= 0.031538963
Epoch: 3282 cost= 0.034876972
Epoch: 3283 cost= 0.034135100
Epoch: 3284 cost= 0.035783015
Epoch: 3285 cost= 0.034106914
Epoch: 3286 cost= 0.034664534
Epoch: 3287 cost= 0.034019921
Epoch: 3288 cost= 0.034185372
Epoch: 3289 cost= 0.034703720
Epoch: 3290 cost= 0.032222182
Epoch: 3291 cost= 0.035763312
Epoch: 3292 cost= 0.035052847
Epoch: 3293 cost= 0.033121556
Epoch: 3294 cost= 0.034405585
```

```
Epoch: 3295 cost= 0.036045935
Epoch: 3296 cost= 0.034275681
Epoch: 3297 cost= 0.036025684
Epoch: 3298 cost= 0.034805566
Epoch: 3299 cost= 0.034629811
Epoch: 3300 cost= 0.033034943
Epoch: 3301 cost= 0.033112925
Epoch: 3302 cost= 0.036014646
Epoch: 3303 cost= 0.033986505
Epoch: 3304 cost= 0.035974618
Epoch: 3305 cost= 0.034564942
Epoch: 3306 cost= 0.033657841
Epoch: 3307 cost= 0.033872847
Epoch: 3308 cost= 0.034183845
Epoch: 3309 cost= 0.035506774
Epoch: 3310 cost= 0.033631720
Epoch: 3311 cost= 0.034209233
Epoch: 3312 cost= 0.032768883
Epoch: 3313 cost= 0.034213826
Epoch: 3314 cost= 0.035565868
Epoch: 3315 cost= 0.035005391
Epoch: 3316 cost= 0.035146590
Epoch: 3317 cost= 0.034720410
Epoch: 3318 cost= 0.034353789
```

```
Epoch: 3319 cost= 0.032595191
Epoch: 3320 cost= 0.032850970
Epoch: 3321 cost= 0.034301411
Epoch: 3322 cost= 0.031961624
Epoch: 3323 cost= 0.034290776
Epoch: 3324 cost= 0.035350986
Epoch: 3325 cost= 0.033674821
Epoch: 3326 cost= 0.034800198
Epoch: 3327 cost= 0.035396162
Epoch: 3328 cost= 0.034713529
Epoch: 3329 cost= 0.036313139
Epoch: 3330 cost= 0.033630103
Epoch: 3331 cost= 0.033037871
Epoch: 3332 cost= 0.035862286
Epoch: 3333 cost= 0.034948438
Epoch: 3334 cost= 0.032089189
Epoch: 3335 cost= 0.034505077
Epoch: 3336 cost= 0.034087449
Epoch: 3337 cost= 0.035738945
Epoch: 3338 cost= 0.034205377
Epoch: 3339 cost= 0.033977460
Epoch: 3340 cost= 0.033265725
Epoch: 3341 cost= 0.035171583
Epoch: 3342 cost= 0.034354802
```

```
Epoch: 3343 cost= 0.034378909
Epoch: 3344 cost= 0.033436794
Epoch: 3345 cost= 0.034497764
Epoch: 3346 cost= 0.037608430
Epoch: 3347 cost= 0.035208259
Epoch: 3348 cost= 0.036034655
Epoch: 3349 cost= 0.034069236
Epoch: 3350 cost= 0.036312990
Epoch: 3351 cost= 0.032884046
Epoch: 3352 cost= 0.035547175
Epoch: 3353 cost= 0.033678591
Epoch: 3354 cost= 0.034219678
Epoch: 3355 cost= 0.035680436
Epoch: 3356 cost= 0.033591609
Epoch: 3357 cost= 0.035563473
Epoch: 3358 cost= 0.035841405
Epoch: 3359 cost= 0.034615789
Epoch: 3360 cost= 0.033842847
Epoch: 3361 cost= 0.036655676
Epoch: 3362 cost= 0.035082843
Epoch: 3363 cost= 0.034089182
Epoch: 3364 cost= 0.034573276
Epoch: 3365 cost= 0.036091451
Epoch: 3366 cost= 0.034306753
```

```
Epoch: 3367 cost= 0.035646230
Epoch: 3368 cost= 0.034568440
Epoch: 3369 cost= 0.034610122
Epoch: 3370 cost= 0.035627600
Epoch: 3371 cost= 0.033705913
Epoch: 3372 cost= 0.035712715
Epoch: 3373 cost= 0.034751322
Epoch: 3374 cost= 0.035333194
Epoch: 3375 cost= 0.032281309
Epoch: 3376 cost= 0.035645831
Epoch: 3377 cost= 0.033731893
Epoch: 3378 cost= 0.034479216
Epoch: 3379 cost= 0.033793487
Epoch: 3380 cost= 0.033886999
Epoch: 3381 cost= 0.035177965
Epoch: 3382 cost= 0.032396987
Epoch: 3383 cost= 0.033543054
Epoch: 3384 cost= 0.034179036
Epoch: 3385 cost= 0.036029201
Epoch: 3386 cost= 0.034312472
Epoch: 3387 cost= 0.032907892
Epoch: 3388 cost= 0.034904502
Epoch: 3389 cost= 0.033588633
Epoch: 3390 cost= 0.035690848
```

```
Epoch: 3391 cost= 0.035761382
Epoch: 3392 cost= 0.034366164
Epoch: 3393 cost= 0.036002330
Epoch: 3394 cost= 0.035837241
Epoch: 3395 cost= 0.034726813
Epoch: 3396 cost= 0.034579296
Epoch: 3397 cost= 0.033704858
Epoch: 3398 cost= 0.035612836
Epoch: 3399 cost= 0.035411045
Epoch: 3400 cost= 0.033480559
Epoch: 3401 cost= 0.034892738
Epoch: 3402 cost= 0.032766931
Epoch: 3403 cost= 0.034559589
Epoch: 3404 cost= 0.033457872
Epoch: 3405 cost= 0.034432940
Epoch: 3406 cost= 0.034065545
Epoch: 3407 cost= 0.036277041
Epoch: 3408 cost= 0.033980064
Epoch: 3409 cost= 0.036705520
Epoch: 3410 cost= 0.034000583
Epoch: 3411 cost= 0.035902437
Epoch: 3412 cost= 0.033509322
Epoch: 3413 cost= 0.035080682
Epoch: 3414 cost= 0.034537151
```

```
Epoch: 3415 cost= 0.033241179
Epoch: 3416 cost= 0.034761034
Epoch: 3417 cost= 0.034594595
Epoch: 3418 cost= 0.033087529
Epoch: 3419 cost= 0.034924369
Epoch: 3420 cost= 0.034216553
Epoch: 3421 cost= 0.035324275
Epoch: 3422 cost= 0.033058770
Epoch: 3423 cost= 0.034365434
Epoch: 3424 cost= 0.033415496
Epoch: 3425 cost= 0.035143912
Epoch: 3426 cost= 0.034688171
Epoch: 3427 cost= 0.033772226
Epoch: 3428 cost= 0.034604538
Epoch: 3429 cost= 0.034178466
Epoch: 3430 cost= 0.033416525
Epoch: 3431 cost= 0.033965401
Epoch: 3432 cost= 0.034606736
Epoch: 3433 cost= 0.035775825
Epoch: 3434 cost= 0.033114422
Epoch: 3435 cost= 0.033288252
Epoch: 3436 cost= 0.034809515
Epoch: 3437 cost= 0.033990566
Epoch: 3438 cost= 0.034040604
```

```
Epoch: 3439 cost= 0.034318496
Epoch: 3440 cost= 0.033641241
Epoch: 3441 cost= 0.033798847
Epoch: 3442 cost= 0.035267182
Epoch: 3443 cost= 0.033670582
Epoch: 3444 cost= 0.036194470
Epoch: 3445 cost= 0.032445636
Epoch: 3446 cost= 0.035232875
Epoch: 3447 cost= 0.034772892
Epoch: 3448 cost= 0.036723778
Epoch: 3449 cost= 0.032643158
Epoch: 3450 cost= 0.032844413
Epoch: 3451 cost= 0.033870894
Epoch: 3452 cost= 0.035155974
Epoch: 3453 cost= 0.034440707
Epoch: 3454 cost= 0.034242641
Epoch: 3455 cost= 0.034888227
Epoch: 3456 cost= 0.035298675
Epoch: 3457 cost= 0.033521865
Epoch: 3458 cost= 0.031563859
Epoch: 3459 cost= 0.036199022
Epoch: 3460 cost= 0.032964271
Epoch: 3461 cost= 0.033519458
Epoch: 3462 cost= 0.034855567
```

```
Epoch: 3463 cost= 0.037099887
Epoch: 3464 cost= 0.031412523
Epoch: 3465 cost= 0.035385098
Epoch: 3466 cost= 0.035011072
Epoch: 3467 cost= 0.031912979
Epoch: 3468 cost= 0.034387220
Epoch: 3469 cost= 0.034564514
Epoch: 3470 cost= 0.034618262
Epoch: 3471 cost= 0.035198972
Epoch: 3472 cost= 0.033941191
Epoch: 3473 cost= 0.033580415
Epoch: 3474 cost= 0.034825910
Epoch: 3475 cost= 0.034351926
Epoch: 3476 cost= 0.035018038
Epoch: 3477 cost= 0.035422884
Epoch: 3478 cost= 0.033458654
Epoch: 3479 cost= 0.031712778
Epoch: 3480 cost= 0.033611555
Epoch: 3481 cost= 0.035836395
Epoch: 3482 cost= 0.032958984
Epoch: 3483 cost= 0.036460865
Epoch: 3484 cost= 0.034498487
Epoch: 3485 cost= 0.031929664
Epoch: 3486 cost= 0.034711745
```

```
Epoch: 3487 cost= 0.033261761
Epoch: 3488 cost= 0.035396110
Epoch: 3489 cost= 0.035633702
Epoch: 3490 cost= 0.034765035
Epoch: 3491 cost= 0.034592379
Epoch: 3492 cost= 0.033870615
Epoch: 3493 cost= 0.037112042
Epoch: 3494 cost= 0.032925893
Epoch: 3495 cost= 0.035951197
Epoch: 3496 cost= 0.032849815
Epoch: 3497 cost= 0.034071326
Epoch: 3498 cost= 0.032712787
Epoch: 3499 cost= 0.033264533
Epoch: 3500 cost= 0.034107268
Epoch: 3501 cost= 0.033912186
Epoch: 3502 cost= 0.034086589
Epoch: 3503 cost= 0.034787286
Epoch: 3504 cost= 0.033748288
Epoch: 3505 cost= 0.033297312
Epoch: 3506 cost= 0.033769462
Epoch: 3507 cost= 0.034619406
Epoch: 3508 cost= 0.034226540
Epoch: 3509 cost= 0.035832863
Epoch: 3510 cost= 0.034693446
```

```
Epoch: 3511 cost= 0.033947993
Epoch: 3512 cost= 0.035640027
Epoch: 3513 cost= 0.035292249
Epoch: 3514 cost= 0.034544084
Epoch: 3515 cost= 0.034887128
Epoch: 3516 cost= 0.035307858
Epoch: 3517 cost= 0.036051277
Epoch: 3518 cost= 0.033447988
Epoch: 3519 cost= 0.034503713
Epoch: 3520 cost= 0.032663520
Epoch: 3521 cost= 0.033655941
Epoch: 3522 cost= 0.032469675
Epoch: 3523 cost= 0.034930121
Epoch: 3524 cost= 0.033953611
Epoch: 3525 cost= 0.035697382
Epoch: 3526 cost= 0.033178978
Epoch: 3527 cost= 0.034383968
Epoch: 3528 cost= 0.035204966
Epoch: 3529 cost= 0.037173219
Epoch: 3530 cost= 0.033589557
Epoch: 3531 cost= 0.034699444
Epoch: 3532 cost= 0.033949148
Epoch: 3533 cost= 0.033707507
Epoch: 3534 cost= 0.034870554
```

```
Epoch: 3535 cost= 0.035677221
Epoch: 3536 cost= 0.033559136
Epoch: 3537 cost= 0.036351804
Epoch: 3538 cost= 0.034166656
Epoch: 3539 cost= 0.035862144
Epoch: 3540 cost= 0.035765421
Epoch: 3541 cost= 0.033252545
Epoch: 3542 cost= 0.033256900
Epoch: 3543 cost= 0.035813462
Epoch: 3544 cost= 0.033617120
Epoch: 3545 cost= 0.032799564
Epoch: 3546 cost= 0.034603767
Epoch: 3547 cost= 0.034224436
Epoch: 3548 cost= 0.033840206
Epoch: 3549 cost= 0.035611022
Epoch: 3550 cost= 0.032790508
Epoch: 3551 cost= 0.035985004
Epoch: 3552 cost= 0.036046539
Epoch: 3553 cost= 0.034575626
Epoch: 3554 cost= 0.034824066
Epoch: 3555 cost= 0.035661273
Epoch: 3556 cost= 0.034226850
Epoch: 3557 cost= 0.035525471
Epoch: 3558 cost= 0.033406239
```

```
Epoch: 3559 cost= 0.032241896
Epoch: 3560 cost= 0.034006886
Epoch: 3561 cost= 0.034166113
Epoch: 3562 cost= 0.035034448
Epoch: 3563 cost= 0.034089379
Epoch: 3564 cost= 0.034757543
Epoch: 3565 cost= 0.034297321
Epoch: 3566 cost= 0.034299057
Epoch: 3567 cost= 0.035112139
Epoch: 3568 cost= 0.035539098
Epoch: 3569 cost= 0.034920454
Epoch: 3570 cost= 0.033333384
Epoch: 3571 cost= 0.034940630
Epoch: 3572 cost= 0.035590984
Epoch: 3573 cost= 0.034076910
Epoch: 3574 cost= 0.037166584
Epoch: 3575 cost= 0.034724087
Epoch: 3576 cost= 0.035178903
Epoch: 3577 cost= 0.034962129
Epoch: 3578 cost= 0.031734116
Epoch: 3579 cost= 0.036124323
Epoch: 3580 cost= 0.034926999
Epoch: 3581 cost= 0.035149403
Epoch: 3582 cost= 0.035975728
```

```
Epoch: 3583 cost= 0.034396987
Epoch: 3584 cost= 0.034154166
Epoch: 3585 cost= 0.036222484
Epoch: 3586 cost= 0.035504479
Epoch: 3587 cost= 0.032712471
Epoch: 3588 cost= 0.032048065
Epoch: 3589 cost= 0.033267286
Epoch: 3590 cost= 0.033316437
Epoch: 3591 cost= 0.034401771
Epoch: 3592 cost= 0.033921592
Epoch: 3593 cost= 0.032801878
Epoch: 3594 cost= 0.037530635
Epoch: 3595 cost= 0.034823272
Epoch: 3596 cost= 0.034716401
Epoch: 3597 cost= 0.035203457
Epoch: 3598 cost= 0.036050171
Epoch: 3599 cost= 0.033727642
Epoch: 3600 cost= 0.034892794
Epoch: 3601 cost= 0.035160210
Epoch: 3602 cost= 0.034344222
Epoch: 3603 cost= 0.035747752
Epoch: 3604 cost= 0.033861529
Epoch: 3605 cost= 0.034457639
Epoch: 3606 cost= 0.034507584
```

```
Epoch: 3607 cost= 0.033485789
Epoch: 3608 cost= 0.034777019
Epoch: 3609 cost= 0.036182925
Epoch: 3610 cost= 0.034466621
Epoch: 3611 cost= 0.032495908
Epoch: 3612 cost= 0.033359315
Epoch: 3613 cost= 0.034497593
Epoch: 3614 cost= 0.032336727
Epoch: 3615 cost= 0.036518477
Epoch: 3616 cost= 0.032935143
Epoch: 3617 cost= 0.033758041
Epoch: 3618 cost= 0.033529144
Epoch: 3619 cost= 0.035050623
Epoch: 3620 cost= 0.034204669
Epoch: 3621 cost= 0.034194347
Epoch: 3622 cost= 0.034406025
Epoch: 3623 cost= 0.034386091
Epoch: 3624 cost= 0.034309972
Epoch: 3625 cost= 0.031295121
Epoch: 3626 cost= 0.033717677
Epoch: 3627 cost= 0.034308884
Epoch: 3628 cost= 0.035612095
Epoch: 3629 cost= 0.036084052
Epoch: 3630 cost= 0.033952404
```

```
Epoch: 3631 cost= 0.035400584
Epoch: 3632 cost= 0.035021923
Epoch: 3633 cost= 0.034298010
Epoch: 3634 cost= 0.032973420
Epoch: 3635 cost= 0.032859497
Epoch: 3636 cost= 0.033400968
Epoch: 3637 cost= 0.034159243
Epoch: 3638 cost= 0.035110410
Epoch: 3639 cost= 0.034456283
Epoch: 3640 cost= 0.034100778
Epoch: 3641 cost= 0.032593060
Epoch: 3642 cost= 0.034026500
Epoch: 3643 cost= 0.036405966
Epoch: 3644 cost= 0.033703029
Epoch: 3645 cost= 0.034855604
Epoch: 3646 cost= 0.034343652
Epoch: 3647 cost= 0.036553886
Epoch: 3648 cost= 0.034439370
Epoch: 3649 cost= 0.034664929
Epoch: 3650 cost= 0.033021301
Epoch: 3651 cost= 0.033902783
Epoch: 3652 cost= 0.034368146
Epoch: 3653 cost= 0.034134556
Epoch: 3654 cost= 0.034798779
```

```
Epoch: 3655 cost= 0.034378160
Epoch: 3656 cost= 0.033885431
Epoch: 3657 cost= 0.036088992
Epoch: 3658 cost= 0.033854209
Epoch: 3659 cost= 0.033319253
Epoch: 3660 cost= 0.035242308
Epoch: 3661 cost= 0.033643384
Epoch: 3662 cost= 0.033579908
Epoch: 3663 cost= 0.033972058
Epoch: 3664 cost= 0.034086417
Epoch: 3665 cost= 0.033269379
Epoch: 3666 cost= 0.034170277
Epoch: 3667 cost= 0.034539822
Epoch: 3668 cost= 0.034134589
Epoch: 3669 cost= 0.035239458
Epoch: 3670 cost= 0.034783494
Epoch: 3671 cost= 0.034251701
Epoch: 3672 cost= 0.034819875
Epoch: 3673 cost= 0.033462640
Epoch: 3674 cost= 0.033178393
Epoch: 3675 cost= 0.035212487
Epoch: 3676 cost= 0.033088725
Epoch: 3677 cost= 0.035875231
Epoch: 3678 cost= 0.034123197
```

```
Epoch: 3679 cost= 0.034979403
Epoch: 3680 cost= 0.033440683
Epoch: 3681 cost= 0.033437926
Epoch: 3682 cost= 0.034503587
Epoch: 3683 cost= 0.034184307
Epoch: 3684 cost= 0.035687335
Epoch: 3685 cost= 0.035332173
Epoch: 3686 cost= 0.034396093
Epoch: 3687 cost= 0.033751998
Epoch: 3688 cost= 0.034124877
Epoch: 3689 cost= 0.032510396
Epoch: 3690 cost= 0.034720685
Epoch: 3691 cost= 0.034076173
Epoch: 3692 cost= 0.034190435
Epoch: 3693 cost= 0.035107631
Epoch: 3694 cost= 0.031357348
Epoch: 3695 cost= 0.034494817
Epoch: 3696 cost= 0.035036694
Epoch: 3697 cost= 0.033926815
Epoch: 3698 cost= 0.034303240
Epoch: 3699 cost= 0.033737291
Epoch: 3700 cost= 0.034264471
Epoch: 3701 cost= 0.035110638
Epoch: 3702 cost= 0.035444137
```

```
Epoch: 3703 cost= 0.035449568
Epoch: 3704 cost= 0.034573440
Epoch: 3705 cost= 0.035360351
Epoch: 3706 cost= 0.034544908
Epoch: 3707 cost= 0.035786211
Epoch: 3708 cost= 0.032971267
Epoch: 3709 cost= 0.035085365
Epoch: 3710 cost= 0.032996021
Epoch: 3711 cost= 0.035378627
Epoch: 3712 cost= 0.035270821
Epoch: 3713 cost= 0.035556734
Epoch: 3714 cost= 0.035576213
Epoch: 3715 cost= 0.034003638
Epoch: 3716 cost= 0.035155386
Epoch: 3717 cost= 0.033697210
Epoch: 3718 cost= 0.034354340
Epoch: 3719 cost= 0.034492332
Epoch: 3720 cost= 0.033494141
Epoch: 3721 cost= 0.033729173
Epoch: 3722 cost= 0.033880331
Epoch: 3723 cost= 0.032730192
Epoch: 3724 cost= 0.033612762
Epoch: 3725 cost= 0.032624770
Epoch: 3726 cost= 0.034439307
```

```
Epoch: 3727 cost= 0.035187576
Epoch: 3728 cost= 0.032910813
Epoch: 3729 cost= 0.034151033
Epoch: 3730 cost= 0.033792272
Epoch: 3731 cost= 0.034807999
Epoch: 3732 cost= 0.033609204
Epoch: 3733 cost= 0.033771724
Epoch: 3734 cost= 0.035136394
Epoch: 3735 cost= 0.035392813
Epoch: 3736 cost= 0.035358321
Epoch: 3737 cost= 0.033725645
Epoch: 3738 cost= 0.032744244
Epoch: 3739 cost= 0.033637278
Epoch: 3740 cost= 0.033681445
Epoch: 3741 cost= 0.036170822
Epoch: 3742 cost= 0.033911332
Epoch: 3743 cost= 0.036280647
Epoch: 3744 cost= 0.034734569
Epoch: 3745 cost= 0.034039196
Epoch: 3746 cost= 0.031418212
Epoch: 3747 cost= 0.035378121
Epoch: 3748 cost= 0.035391055
Epoch: 3749 cost= 0.034711227
Epoch: 3750 cost= 0.034431949
```

```
Epoch: 3751 cost= 0.034529198
Epoch: 3752 cost= 0.034668174
Epoch: 3753 cost= 0.033826802
Epoch: 3754 cost= 0.034413625
Epoch: 3755 cost= 0.035826050
Epoch: 3756 cost= 0.035604093
Epoch: 3757 cost= 0.034931011
Epoch: 3758 cost= 0.037147358
Epoch: 3759 cost= 0.034421649
Epoch: 3760 cost= 0.034943711
Epoch: 3761 cost= 0.034860495
Epoch: 3762 cost= 0.034878705
Epoch: 3763 cost= 0.034092292
Epoch: 3764 cost= 0.034388959
Epoch: 3765 cost= 0.035779592
Epoch: 3766 cost= 0.032837428
Epoch: 3767 cost= 0.033622310
Epoch: 3768 cost= 0.034880064
Epoch: 3769 cost= 0.034981329
Epoch: 3770 cost= 0.033547979
Epoch: 3771 cost= 0.035420462
Epoch: 3772 cost= 0.035212502
Epoch: 3773 cost= 0.033684958
Epoch: 3774 cost= 0.034469817
```

```
Epoch: 3775 cost= 0.034062047
Epoch: 3776 cost= 0.033849232
Epoch: 3777 cost= 0.034946218
Epoch: 3778 cost= 0.034908745
Epoch: 3779 cost= 0.034825042
Epoch: 3780 cost= 0.034982286
Epoch: 3781 cost= 0.034387227
Epoch: 3782 cost= 0.034453355
Epoch: 3783 cost= 0.035443861
Epoch: 3784 cost= 0.033941958
Epoch: 3785 cost= 0.035339043
Epoch: 3786 cost= 0.034346201
Epoch: 3787 cost= 0.035376422
Epoch: 3788 cost= 0.033319023
Epoch: 3789 cost= 0.035168897
Epoch: 3790 cost= 0.034378611
Epoch: 3791 cost= 0.033615839
Epoch: 3792 cost= 0.035042990
Epoch: 3793 cost= 0.035419922
Epoch: 3794 cost= 0.035585389
Epoch: 3795 cost= 0.035128444
Epoch: 3796 cost= 0.034866966
Epoch: 3797 cost= 0.034885019
Epoch: 3798 cost= 0.033230331
```

```
Epoch: 3799 cost= 0.034454230
Epoch: 3800 cost= 0.032980740
Epoch: 3801 cost= 0.033634461
Epoch: 3802 cost= 0.033855185
Epoch: 3803 cost= 0.035745770
Epoch: 3804 cost= 0.035127576
Epoch: 3805 cost= 0.034018289
Epoch: 3806 cost= 0.033082806
Epoch: 3807 cost= 0.032739874
Epoch: 3808 cost= 0.035572790
Epoch: 3809 cost= 0.033271022
Epoch: 3810 cost= 0.034486979
Epoch: 3811 cost= 0.036578495
Epoch: 3812 cost= 0.034197345
Epoch: 3813 cost= 0.033932030
Epoch: 3814 cost= 0.032597277
Epoch: 3815 cost= 0.034250621
Epoch: 3816 cost= 0.036329780
Epoch: 3817 cost= 0.033090424
Epoch: 3818 cost= 0.035057057
Epoch: 3819 cost= 0.034980457
Epoch: 3820 cost= 0.035612222
Epoch: 3821 cost= 0.035536692
Epoch: 3822 cost= 0.034518667
```

```
Epoch: 3823 cost= 0.033315435
Epoch: 3824 cost= 0.034417313
Epoch: 3825 cost= 0.034014214
Epoch: 3826 cost= 0.032582529
Epoch: 3827 cost= 0.034842398
Epoch: 3828 cost= 0.033825777
Epoch: 3829 cost= 0.034206055
Epoch: 3830 cost= 0.033297751
Epoch: 3831 cost= 0.034969319
Epoch: 3832 cost= 0.034623381
Epoch: 3833 cost= 0.031491559
Epoch: 3834 cost= 0.034495365
Epoch: 3835 cost= 0.032186907
Epoch: 3836 cost= 0.035606422
Epoch: 3837 cost= 0.036533505
Epoch: 3838 cost= 0.034965497
Epoch: 3839 cost= 0.035870001
Epoch: 3840 cost= 0.035629477
Epoch: 3841 cost= 0.033145994
Epoch: 3842 cost= 0.033525385
Epoch: 3843 cost= 0.034595840
Epoch: 3844 cost= 0.034903381
Epoch: 3845 cost= 0.032622043
Epoch: 3846 cost= 0.035828162
```

```
Epoch: 3847 cost= 0.035280973
Epoch: 3848 cost= 0.035388771
Epoch: 3849 cost= 0.034035146
Epoch: 3850 cost= 0.032353844
Epoch: 3851 cost= 0.035673838
Epoch: 3852 cost= 0.035209309
Epoch: 3853 cost= 0.035336714
Epoch: 3854 cost= 0.034773637
Epoch: 3855 cost= 0.033326644
Epoch: 3856 cost= 0.035519585
Epoch: 3857 cost= 0.035482783
Epoch: 3858 cost= 0.034928650
Epoch: 3859 cost= 0.034224775
Epoch: 3860 cost= 0.032414854
Epoch: 3861 cost= 0.034531150
Epoch: 3862 cost= 0.033669874
Epoch: 3863 cost= 0.033954382
Epoch: 3864 cost= 0.034545567
Epoch: 3865 cost= 0.033318359
Epoch: 3866 cost= 0.033845395
Epoch: 3867 cost= 0.034511909
Epoch: 3868 cost= 0.035139006
Epoch: 3869 cost= 0.035385344
Epoch: 3870 cost= 0.033831988
```

```
Epoch: 3871 cost= 0.035010215
Epoch: 3872 cost= 0.035540625
Epoch: 3873 cost= 0.034720235
Epoch: 3874 cost= 0.033619091
Epoch: 3875 cost= 0.034994446
Epoch: 3876 cost= 0.033674352
Epoch: 3877 cost= 0.036616180
Epoch: 3878 cost= 0.033126459
Epoch: 3879 cost= 0.034403179
Epoch: 3880 cost= 0.033913653
Epoch: 3881 cost= 0.034359269
Epoch: 3882 cost= 0.034631860
Epoch: 3883 cost= 0.034573350
Epoch: 3884 cost= 0.034217108
Epoch: 3885 cost= 0.034604467
Epoch: 3886 cost= 0.036230840
Epoch: 3887 cost= 0.034218777
Epoch: 3888 cost= 0.035529308
Epoch: 3889 cost= 0.034125585
Epoch: 3890 cost= 0.032923948
Epoch: 3891 cost= 0.032096099
Epoch: 3892 cost= 0.034130435
Epoch: 3893 cost= 0.035855733
Epoch: 3894 cost= 0.035794452
```

```
Epoch: 3895 cost= 0.035292313
Epoch: 3896 cost= 0.034260385
Epoch: 3897 cost= 0.033043057
Epoch: 3898 cost= 0.033880468
Epoch: 3899 cost= 0.037321690
Epoch: 3900 cost= 0.034923170
Epoch: 3901 cost= 0.034722473
Epoch: 3902 cost= 0.033521216
Epoch: 3903 cost= 0.035960644
Epoch: 3904 cost= 0.034646746
Epoch: 3905 cost= 0.033655874
Epoch: 3906 cost= 0.036691796
Epoch: 3907 cost= 0.035777602
Epoch: 3908 cost= 0.033722151
Epoch: 3909 cost= 0.032865688
Epoch: 3910 cost= 0.035339098
Epoch: 3911 cost= 0.034916375
Epoch: 3912 cost= 0.033377141
Epoch: 3913 cost= 0.033703268
Epoch: 3914 cost= 0.036392413
Epoch: 3915 cost= 0.035533488
Epoch: 3916 cost= 0.034019180
Epoch: 3917 cost= 0.033427812
Epoch: 3918 cost= 0.033567067
```

```
Epoch: 3919 cost= 0.034470797
Epoch: 3920 cost= 0.035029080
Epoch: 3921 cost= 0.033299729
Epoch: 3922 cost= 0.034130968
Epoch: 3923 cost= 0.034123272
Epoch: 3924 cost= 0.034563158
Epoch: 3925 cost= 0.035496358
Epoch: 3926 cost= 0.037242200
Epoch: 3927 cost= 0.034056935
Epoch: 3928 cost= 0.033103779
Epoch: 3929 cost= 0.036132071
Epoch: 3930 cost= 0.035378374
Epoch: 3931 cost= 0.034969285
Epoch: 3932 cost= 0.034327168
Epoch: 3933 cost= 0.035929907
Epoch: 3934 cost= 0.034032758
Epoch: 3935 cost= 0.034126882
Epoch: 3936 cost= 0.033694942
Epoch: 3937 cost= 0.035537452
Epoch: 3938 cost= 0.032936119
Epoch: 3939 cost= 0.034875996
Epoch: 3940 cost= 0.034291316
Epoch: 3941 cost= 0.036471751
Epoch: 3942 cost= 0.033974748
```

```
Epoch: 3943 cost= 0.033334076
Epoch: 3944 cost= 0.035749231
Epoch: 3945 cost= 0.033982068
Epoch: 3946 cost= 0.033941232
Epoch: 3947 cost= 0.034631860
Epoch: 3948 cost= 0.034164190
Epoch: 3949 cost= 0.034672990
Epoch: 3950 cost= 0.033790100
Epoch: 3951 cost= 0.034944914
Epoch: 3952 cost= 0.033803426
Epoch: 3953 cost= 0.034697324
Epoch: 3954 cost= 0.033113092
Epoch: 3955 cost= 0.034464166
Epoch: 3956 cost= 0.034378026
Epoch: 3957 cost= 0.034740899
Epoch: 3958 cost= 0.033211879
Epoch: 3959 cost= 0.033764075
Epoch: 3960 cost= 0.034690078
Epoch: 3961 cost= 0.034900218
Epoch: 3962 cost= 0.032834154
Epoch: 3963 cost= 0.034773212
Epoch: 3964 cost= 0.034821708
Epoch: 3965 cost= 0.033005249
Epoch: 3966 cost= 0.033102766
```

```
Epoch: 3967 cost= 0.034894325
Epoch: 3968 cost= 0.033940278
Epoch: 3969 cost= 0.034030713
Epoch: 3970 cost= 0.035415061
Epoch: 3971 cost= 0.034859739
Epoch: 3972 cost= 0.034181956
Epoch: 3973 cost= 0.035897002
Epoch: 3974 cost= 0.034272037
Epoch: 3975 cost= 0.034585968
Epoch: 3976 cost= 0.034333609
Epoch: 3977 cost= 0.033431176
Epoch: 3978 cost= 0.034464344
Epoch: 3979 cost= 0.034564372
Epoch: 3980 cost= 0.034635983
Epoch: 3981 cost= 0.032876343
Epoch: 3982 cost= 0.035866249
Epoch: 3983 cost= 0.036147609
Epoch: 3984 cost= 0.035974111
Epoch: 3985 cost= 0.037007876
Epoch: 3986 cost= 0.030754527
Epoch: 3987 cost= 0.035868507
Epoch: 3988 cost= 0.034423873
Epoch: 3989 cost= 0.035525534
Epoch: 3990 cost= 0.032599278
```

```
Epoch: 3991 cost= 0.036823567
Epoch: 3992 cost= 0.034705609
Epoch: 3993 cost= 0.036622413
Epoch: 3994 cost= 0.031591229
Epoch: 3995 cost= 0.034989521
Epoch: 3996 cost= 0.034161143
Epoch: 3997 cost= 0.033703476
Epoch: 3998 cost= 0.035305925
Epoch: 3999 cost= 0.034833267
Epoch: 4000 cost= 0.033899479
Epoch: 4001 cost= 0.035121825
Epoch: 4002 cost= 0.035042081
Epoch: 4003 cost= 0.034875363
Epoch: 4004 cost= 0.034570791
Epoch: 4005 cost= 0.034783583
Epoch: 4006 cost= 0.034638830
Epoch: 4007 cost= 0.036389116
Epoch: 4008 cost= 0.035581518
Epoch: 4009 cost= 0.034781571
Epoch: 4010 cost= 0.034029257
Epoch: 4011 cost= 0.036067855
Epoch: 4012 cost= 0.035445355
Epoch: 4013 cost= 0.034449276
Epoch: 4014 cost= 0.035909820
```

```
Epoch: 4015 cost= 0.034868807
Epoch: 4016 cost= 0.035175852
Epoch: 4017 cost= 0.036096718
Epoch: 4018 cost= 0.033910464
Epoch: 4019 cost= 0.034629993
Epoch: 4020 cost= 0.035583232
Epoch: 4021 cost= 0.033365633
Epoch: 4022 cost= 0.036248762
Epoch: 4023 cost= 0.035425119
Epoch: 4024 cost= 0.033980291
Epoch: 4025 cost= 0.034517586
Epoch: 4026 cost= 0.032817952
Epoch: 4027 cost= 0.033697460
Epoch: 4028 cost= 0.032959800
Epoch: 4029 cost= 0.033057269
Epoch: 4030 cost= 0.034250412
Epoch: 4031 cost= 0.035229433
Epoch: 4032 cost= 0.034546733
Epoch: 4033 cost= 0.032883089
Epoch: 4034 cost= 0.035154324
Epoch: 4035 cost= 0.034284178
Epoch: 4036 cost= 0.034471326
Epoch: 4037 cost= 0.033508815
Epoch: 4038 cost= 0.034975931
```

```
Epoch: 4039 cost= 0.031993441
Epoch: 4040 cost= 0.035313927
Epoch: 4041 cost= 0.034809846
Epoch: 4042 cost= 0.035659749
Epoch: 4043 cost= 0.035382062
Epoch: 4044 cost= 0.033100970
Epoch: 4045 cost= 0.034464136
Epoch: 4046 cost= 0.035283022
Epoch: 4047 cost= 0.034055561
Epoch: 4048 cost= 0.034286514
Epoch: 4049 cost= 0.032766540
Epoch: 4050 cost= 0.033023663
Epoch: 4051 cost= 0.037127666
Epoch: 4052 cost= 0.035466760
Epoch: 4053 cost= 0.034419794
Epoch: 4054 cost= 0.035300337
Epoch: 4055 cost= 0.033299387
Epoch: 4056 cost= 0.034834970
Epoch: 4057 cost= 0.032399364
Epoch: 4058 cost= 0.035332318
Epoch: 4059 cost= 0.035511110
Epoch: 4060 cost= 0.033250328
Epoch: 4061 cost= 0.035239112
Epoch: 4062 cost= 0.034850933
```

```
Epoch: 4063 cost= 0.035557836
Epoch: 4064 cost= 0.034145188
Epoch: 4065 cost= 0.036714993
Epoch: 4066 cost= 0.031418175
Epoch: 4067 cost= 0.034060013
Epoch: 4068 cost= 0.034680020
Epoch: 4069 cost= 0.034979951
Epoch: 4070 cost= 0.035598308
Epoch: 4071 cost= 0.034407519
Epoch: 4072 cost= 0.034902658
Epoch: 4073 cost= 0.035042111
Epoch: 4074 cost= 0.033377286
Epoch: 4075 cost= 0.034772206
Epoch: 4076 cost= 0.033068731
Epoch: 4077 cost= 0.035047688
Epoch: 4078 cost= 0.036085561
Epoch: 4079 cost= 0.035574723
Epoch: 4080 cost= 0.033476762
Epoch: 4081 cost= 0.034238685
Epoch: 4082 cost= 0.034508556
Epoch: 4083 cost= 0.034538131
Epoch: 4084 cost= 0.032630075
Epoch: 4085 cost= 0.034668319
Epoch: 4086 cost= 0.034775324
```

```
Epoch: 4087 cost= 0.031027682
Epoch: 4088 cost= 0.033940941
Epoch: 4089 cost= 0.031298134
Epoch: 4090 cost= 0.033254594
Epoch: 4091 cost= 0.034411531
Epoch: 4092 cost= 0.034036860
Epoch: 4093 cost= 0.032020286
Epoch: 4094 cost= 0.034527726
Epoch: 4095 cost= 0.033731900
Epoch: 4096 cost= 0.033248976
Epoch: 4097 cost= 0.033927087
Epoch: 4098 cost= 0.031856265
Epoch: 4099 cost= 0.034914266
Epoch: 4100 cost= 0.034553077
Epoch: 4101 cost= 0.035765447
Epoch: 4102 cost= 0.035168048
Epoch: 4103 cost= 0.033798713
Epoch: 4104 cost= 0.033497352
Epoch: 4105 cost= 0.032675952
Epoch: 4106 cost= 0.034954421
Epoch: 4107 cost= 0.034127507
Epoch: 4108 cost= 0.035551518
Epoch: 4109 cost= 0.034600712
Epoch: 4110 cost= 0.034210678
```

```
Epoch: 4111 cost= 0.034316618
Epoch: 4112 cost= 0.034840379
Epoch: 4113 cost= 0.035150312
Epoch: 4114 cost= 0.036594484
Epoch: 4115 cost= 0.034326062
Epoch: 4116 cost= 0.035600323
Epoch: 4117 cost= 0.034496151
Epoch: 4118 cost= 0.033262283
Epoch: 4119 cost= 0.033498950
Epoch: 4120 cost= 0.032656863
Epoch: 4121 cost= 0.034553833
Epoch: 4122 cost= 0.035339210
Epoch: 4123 cost= 0.036359552
Epoch: 4124 cost= 0.035157558
Epoch: 4125 cost= 0.035838488
Epoch: 4126 cost= 0.034177747
Epoch: 4127 cost= 0.034889434
Epoch: 4128 cost= 0.033004120
Epoch: 4129 cost= 0.033133890
Epoch: 4130 cost= 0.035698887
Epoch: 4131 cost= 0.034227971
Epoch: 4132 cost= 0.033188798
Epoch: 4133 cost= 0.034770571
Epoch: 4134 cost= 0.032485310
```

```
Epoch: 4135 cost= 0.033782098
Epoch: 4136 cost= 0.035122868
Epoch: 4137 cost= 0.034649048
Epoch: 4138 cost= 0.034533534
Epoch: 4139 cost= 0.034687568
Epoch: 4140 cost= 0.032612480
Epoch: 4141 cost= 0.032597080
Epoch: 4142 cost= 0.034977183
Epoch: 4143 cost= 0.035163593
Epoch: 4144 cost= 0.037680037
Epoch: 4145 cost= 0.034701046
Epoch: 4146 cost= 0.034800515
Epoch: 4147 cost= 0.032514434
Epoch: 4148 cost= 0.035929918
Epoch: 4149 cost= 0.034477677
Epoch: 4150 cost= 0.036862940
Epoch: 4151 cost= 0.036261287
Epoch: 4152 cost= 0.034968223
Epoch: 4153 cost= 0.036239229
Epoch: 4154 cost= 0.032443270
Epoch: 4155 cost= 0.036125638
Epoch: 4156 cost= 0.036095824
Epoch: 4157 cost= 0.036698885
Epoch: 4158 cost= 0.035572015
```

```
Epoch: 4159 cost= 0.035465810
Epoch: 4160 cost= 0.033508241
Epoch: 4161 cost= 0.034457076
Epoch: 4162 cost= 0.033474810
Epoch: 4163 cost= 0.034810785
Epoch: 4164 cost= 0.033448189
Epoch: 4165 cost= 0.031723503
Epoch: 4166 cost= 0.034808420
Epoch: 4167 cost= 0.034557886
Epoch: 4168 cost= 0.035606001
Epoch: 4169 cost= 0.034333769
Epoch: 4170 cost= 0.035767529
Epoch: 4171 cost= 0.035290610
Epoch: 4172 cost= 0.033947974
Epoch: 4173 cost= 0.034766473
Epoch: 4174 cost= 0.034179572
Epoch: 4175 cost= 0.035164066
Epoch: 4176 cost= 0.032735996
Epoch: 4177 cost= 0.034982339
Epoch: 4178 cost= 0.034617383
Epoch: 4179 cost= 0.033822853
Epoch: 4180 cost= 0.034947619
Epoch: 4181 cost= 0.034096733
Epoch: 4182 cost= 0.033450969
```

```
Epoch: 4183 cost= 0.035263937
Epoch: 4184 cost= 0.034970269
Epoch: 4185 cost= 0.032897681
Epoch: 4186 cost= 0.032993671
Epoch: 4187 cost= 0.033800818
Epoch: 4188 cost= 0.033656973
Epoch: 4189 cost= 0.031540982
Epoch: 4190 cost= 0.033635367
Epoch: 4191 cost= 0.035102598
Epoch: 4192 cost= 0.034828793
Epoch: 4193 cost= 0.034315679
Epoch: 4194 cost= 0.035375543
Epoch: 4195 cost= 0.033083059
Epoch: 4196 cost= 0.034835827
Epoch: 4197 cost= 0.034254778
Epoch: 4198 cost= 0.033366114
Epoch: 4199 cost= 0.033962253
Epoch: 4200 cost= 0.034743458
Epoch: 4201 cost= 0.034117162
Epoch: 4202 cost= 0.034154199
Epoch: 4203 cost= 0.035054568
Epoch: 4204 cost= 0.033839945
Epoch: 4205 cost= 0.034718599
Epoch: 4206 cost= 0.033755410
```

```
Epoch: 4207 cost= 0.036002673
Epoch: 4208 cost= 0.034670502
Epoch: 4209 cost= 0.034449659
Epoch: 4210 cost= 0.032783382
Epoch: 4211 cost= 0.033144780
Epoch: 4212 cost= 0.033760659
Epoch: 4213 cost= 0.032123886
Epoch: 4214 cost= 0.034827974
Epoch: 4215 cost= 0.034384422
Epoch: 4216 cost= 0.036594171
Epoch: 4217 cost= 0.036294591
Epoch: 4218 cost= 0.035289139
Epoch: 4219 cost= 0.036325682
Epoch: 4220 cost= 0.032236140
Epoch: 4221 cost= 0.033295877
Epoch: 4222 cost= 0.035272762
Epoch: 4223 cost= 0.034653921
Epoch: 4224 cost= 0.035247382
Epoch: 4225 cost= 0.035249162
Epoch: 4226 cost= 0.035686005
Epoch: 4227 cost= 0.035140485
Epoch: 4228 cost= 0.034925759
Epoch: 4229 cost= 0.035788078
Epoch: 4230 cost= 0.035354059
```

```
Epoch: 4231 cost= 0.033584215
Epoch: 4232 cost= 0.033818338
Epoch: 4233 cost= 0.033005487
Epoch: 4234 cost= 0.031978481
Epoch: 4235 cost= 0.033372160
Epoch: 4236 cost= 0.034848806
Epoch: 4237 cost= 0.035437904
Epoch: 4238 cost= 0.035544790
Epoch: 4239 cost= 0.034049597
Epoch: 4240 cost= 0.033338122
Epoch: 4241 cost= 0.034760848
Epoch: 4242 cost= 0.036542062
Epoch: 4243 cost= 0.033848017
Epoch: 4244 cost= 0.035547934
Epoch: 4245 cost= 0.037025705
Epoch: 4246 cost= 0.033872198
Epoch: 4247 cost= 0.033087291
Epoch: 4248 cost= 0.034282137
Epoch: 4249 cost= 0.035647795
Epoch: 4250 cost= 0.033905987
Epoch: 4251 cost= 0.032141078
Epoch: 4252 cost= 0.033461697
Epoch: 4253 cost= 0.035445102
Epoch: 4254 cost= 0.034421310
```

```
Epoch: 4255 cost= 0.033898510
Epoch: 4256 cost= 0.033074971
Epoch: 4257 cost= 0.032943375
Epoch: 4258 cost= 0.034911551
Epoch: 4259 cost= 0.035251360
Epoch: 4260 cost= 0.035927396
Epoch: 4261 cost= 0.034134753
Epoch: 4262 cost= 0.035945799
Epoch: 4263 cost= 0.034853522
Epoch: 4264 cost= 0.032189935
Epoch: 4265 cost= 0.036130190
Epoch: 4266 cost= 0.033850417
Epoch: 4267 cost= 0.032844495
Epoch: 4268 cost= 0.034320962
Epoch: 4269 cost= 0.036361173
Epoch: 4270 cost= 0.033893213
Epoch: 4271 cost= 0.034492623
Epoch: 4272 cost= 0.033961132
Epoch: 4273 cost= 0.035117947
Epoch: 4274 cost= 0.034237247
Epoch: 4275 cost= 0.035363425
Epoch: 4276 cost= 0.034906287
Epoch: 4277 cost= 0.034583282
Epoch: 4278 cost= 0.034849159
```

```
Epoch: 4279 cost= 0.035745174
Epoch: 4280 cost= 0.032106925
Epoch: 4281 cost= 0.033653900
Epoch: 4282 cost= 0.036193281
Epoch: 4283 cost= 0.035650972
Epoch: 4284 cost= 0.036053993
Epoch: 4285 cost= 0.032274410
Epoch: 4286 cost= 0.034482952
Epoch: 4287 cost= 0.032535668
Epoch: 4288 cost= 0.033035282
Epoch: 4289 cost= 0.034506246
Epoch: 4290 cost= 0.034836117
Epoch: 4291 cost= 0.034209576
Epoch: 4292 cost= 0.034855686
Epoch: 4293 cost= 0.032388136
Epoch: 4294 cost= 0.032718766
Epoch: 4295 cost= 0.033903155
Epoch: 4296 cost= 0.035474665
Epoch: 4297 cost= 0.033965375
Epoch: 4298 cost= 0.036437318
Epoch: 4299 cost= 0.035098016
Epoch: 4300 cost= 0.035449788
Epoch: 4301 cost= 0.034485780
Epoch: 4302 cost= 0.032665659
```

```
Epoch: 4303 cost= 0.035076603
Epoch: 4304 cost= 0.034758199
Epoch: 4305 cost= 0.033396933
Epoch: 4306 cost= 0.035353873
Epoch: 4307 cost= 0.035219379
Epoch: 4308 cost= 0.034695655
Epoch: 4309 cost= 0.033295959
Epoch: 4310 cost= 0.033402264
Epoch: 4311 cost= 0.034596443
Epoch: 4312 cost= 0.034420189
Epoch: 4313 cost= 0.034113228
Epoch: 4314 cost= 0.033360932
Epoch: 4315 cost= 0.033373844
Epoch: 4316 cost= 0.034355700
Epoch: 4317 cost= 0.033658952
Epoch: 4318 cost= 0.031688154
Epoch: 4319 cost= 0.037718181
Epoch: 4320 cost= 0.035116486
Epoch: 4321 cost= 0.034505352
Epoch: 4322 cost= 0.034662958
Epoch: 4323 cost= 0.033695526
Epoch: 4324 cost= 0.032467313
Epoch: 4325 cost= 0.034164608
Epoch: 4326 cost= 0.033585258
```

```
Epoch: 4327 cost= 0.031554159
Epoch: 4328 cost= 0.034102838
Epoch: 4329 cost= 0.033266418
Epoch: 4330 cost= 0.035796918
Epoch: 4331 cost= 0.034727775
Epoch: 4332 cost= 0.034767170
Epoch: 4333 cost= 0.033967890
Epoch: 4334 cost= 0.034354046
Epoch: 4335 cost= 0.033731390
Epoch: 4336 cost= 0.036915444
Epoch: 4337 cost= 0.033298656
Epoch: 4338 cost= 0.032686662
Epoch: 4339 cost= 0.035078194
Epoch: 4340 cost= 0.033964965
Epoch: 4341 cost= 0.033033244
Epoch: 4342 cost= 0.034595534
Epoch: 4343 cost= 0.034330621
Epoch: 4344 cost= 0.034927063
Epoch: 4345 cost= 0.032080226
Epoch: 4346 cost= 0.033866931
Epoch: 4347 cost= 0.035851516
Epoch: 4348 cost= 0.036057696
Epoch: 4349 cost= 0.035118248
Epoch: 4350 cost= 0.035262216
```

```
Epoch: 4351 cost= 0.034996249
Epoch: 4352 cost= 0.034905843
Epoch: 4353 cost= 0.036811244
Epoch: 4354 cost= 0.035292357
Epoch: 4355 cost= 0.034768332
Epoch: 4356 cost= 0.034380879
Epoch: 4357 cost= 0.033334944
Epoch: 4358 cost= 0.034124456
Epoch: 4359 cost= 0.034064662
Epoch: 4360 cost= 0.035773147
Epoch: 4361 cost= 0.033809252
Epoch: 4362 cost= 0.034199364
Epoch: 4363 cost= 0.035747346
Epoch: 4364 cost= 0.036056049
Epoch: 4365 cost= 0.035130184
Epoch: 4366 cost= 0.033921625
Epoch: 4367 cost= 0.035378948
Epoch: 4368 cost= 0.033589792
Epoch: 4369 cost= 0.034753159
Epoch: 4370 cost= 0.035556108
Epoch: 4371 cost= 0.032658592
Epoch: 4372 cost= 0.035642419
Epoch: 4373 cost= 0.035492390
Epoch: 4374 cost= 0.033604752
```

```
Epoch: 4375 cost= 0.034126442
Epoch: 4376 cost= 0.034227744
Epoch: 4377 cost= 0.035604320
Epoch: 4378 cost= 0.033679649
Epoch: 4379 cost= 0.035961222
Epoch: 4380 cost= 0.034788460
Epoch: 4381 cost= 0.033863928
Epoch: 4382 cost= 0.035752006
Epoch: 4383 cost= 0.035444636
Epoch: 4384 cost= 0.033885278
Epoch: 4385 cost= 0.033852056
Epoch: 4386 cost= 0.034270655
Epoch: 4387 cost= 0.033717860
Epoch: 4388 cost= 0.033666354
Epoch: 4389 cost= 0.035743207
Epoch: 4390 cost= 0.033922072
Epoch: 4391 cost= 0.033594463
Epoch: 4392 cost= 0.034997940
Epoch: 4393 cost= 0.034020498
Epoch: 4394 cost= 0.034814335
Epoch: 4395 cost= 0.034233015
Epoch: 4396 cost= 0.033731095
Epoch: 4397 cost= 0.035062499
Epoch: 4398 cost= 0.035762813
```

```
Epoch: 4399 cost= 0.036244884
Epoch: 4400 cost= 0.035201211
Epoch: 4401 cost= 0.035536803
Epoch: 4402 cost= 0.035585038
Epoch: 4403 cost= 0.034512587
Epoch: 4404 cost= 0.034383565
Epoch: 4405 cost= 0.034024253
Epoch: 4406 cost= 0.034769870
Epoch: 4407 cost= 0.035226434
Epoch: 4408 cost= 0.033688042
Epoch: 4409 cost= 0.034236748
Epoch: 4410 cost= 0.033129364
Epoch: 4411 cost= 0.033610303
Epoch: 4412 cost= 0.034447297
Epoch: 4413 cost= 0.035094656
Epoch: 4414 cost= 0.033698883
Epoch: 4415 cost= 0.032948386
Epoch: 4416 cost= 0.035455279
Epoch: 4417 cost= 0.035497095
Epoch: 4418 cost= 0.032485683
Epoch: 4419 cost= 0.033388890
Epoch: 4420 cost= 0.035491876
Epoch: 4421 cost= 0.035079714
Epoch: 4422 cost= 0.034825902
```

```
Epoch: 4423 cost= 0.035256241
Epoch: 4424 cost= 0.034738053
Epoch: 4425 cost= 0.032273795
Epoch: 4426 cost= 0.033015899
Epoch: 4427 cost= 0.033441089
Epoch: 4428 cost= 0.035418898
Epoch: 4429 cost= 0.034744591
Epoch: 4430 cost= 0.033704299
Epoch: 4431 cost= 0.032516271
Epoch: 4432 cost= 0.033118077
Epoch: 4433 cost= 0.035699800
Epoch: 4434 cost= 0.035916001
Epoch: 4435 cost= 0.035508394
Epoch: 4436 cost= 0.032949977
Epoch: 4437 cost= 0.033856858
Epoch: 4438 cost= 0.034783266
Epoch: 4439 cost= 0.034051269
Epoch: 4440 cost= 0.032588322
Epoch: 4441 cost= 0.037347417
Epoch: 4442 cost= 0.034110967
Epoch: 4443 cost= 0.035016786
Epoch: 4444 cost= 0.034786936
Epoch: 4445 cost= 0.037094567
Epoch: 4446 cost= 0.033375885
```

```
Epoch: 4447 cost= 0.031947099
Epoch: 4448 cost= 0.035418730
Epoch: 4449 cost= 0.032283030
Epoch: 4450 cost= 0.034987275
Epoch: 4451 cost= 0.033632617
Epoch: 4452 cost= 0.032630414
Epoch: 4453 cost= 0.034455121
Epoch: 4454 cost= 0.035461809
Epoch: 4455 cost= 0.034006204
Epoch: 4456 cost= 0.035787236
Epoch: 4457 cost= 0.034085836
Epoch: 4458 cost= 0.034663122
Epoch: 4459 cost= 0.033616640
Epoch: 4460 cost= 0.035658386
Epoch: 4461 cost= 0.036761526
Epoch: 4462 cost= 0.033733893
Epoch: 4463 cost= 0.035626438
Epoch: 4464 cost= 0.033233434
Epoch: 4465 cost= 0.033751149
Epoch: 4466 cost= 0.035363041
Epoch: 4467 cost= 0.034242380
Epoch: 4468 cost= 0.034836911
Epoch: 4469 cost= 0.037435513
Epoch: 4470 cost= 0.034201246
```

```
Epoch: 4471 cost= 0.033122234
Epoch: 4472 cost= 0.036145274
Epoch: 4473 cost= 0.035054892
Epoch: 4474 cost= 0.032955561
Epoch: 4475 cost= 0.034649312
Epoch: 4476 cost= 0.033205297
Epoch: 4477 cost= 0.034949835
Epoch: 4478 cost= 0.034050677
Epoch: 4479 cost= 0.033739537
Epoch: 4480 cost= 0.034403924
Epoch: 4481 cost= 0.037735563
Epoch: 4482 cost= 0.034973219
Epoch: 4483 cost= 0.034772847
Epoch: 4484 cost= 0.034181636
Epoch: 4485 cost= 0.032033335
Epoch: 4486 cost= 0.034211367
Epoch: 4487 cost= 0.034336917
Epoch: 4488 cost= 0.034482945
Epoch: 4489 cost= 0.035150342
Epoch: 4490 cost= 0.034521461
Epoch: 4491 cost= 0.032447480
Epoch: 4492 cost= 0.034750577
Epoch: 4493 cost= 0.033337023
Epoch: 4494 cost= 0.033795726
```

```
Epoch: 4495 cost= 0.035983838
Epoch: 4496 cost= 0.032513235
Epoch: 4497 cost= 0.033247471
Epoch: 4498 cost= 0.035011273
Epoch: 4499 cost= 0.032518812
Epoch: 4500 cost= 0.033141881
Epoch: 4501 cost= 0.033946022
Epoch: 4502 cost= 0.033033472
Epoch: 4503 cost= 0.033176534
Epoch: 4504 cost= 0.036522053
Epoch: 4505 cost= 0.033984706
Epoch: 4506 cost= 0.034129288
Epoch: 4507 cost= 0.032812756
Epoch: 4508 cost= 0.035974912
Epoch: 4509 cost= 0.034892507
Epoch: 4510 cost= 0.033299237
Epoch: 4511 cost= 0.035095543
Epoch: 4512 cost= 0.034635808
Epoch: 4513 cost= 0.034677509
Epoch: 4514 cost= 0.035458725
Epoch: 4515 cost= 0.034084879
Epoch: 4516 cost= 0.034874126
Epoch: 4517 cost= 0.036498010
Epoch: 4518 cost= 0.033431590
```

```
Epoch: 4519 cost= 0.034497745
Epoch: 4520 cost= 0.033858199
Epoch: 4521 cost= 0.034146301
Epoch: 4522 cost= 0.037143201
Epoch: 4523 cost= 0.034494750
Epoch: 4524 cost= 0.034772195
Epoch: 4525 cost= 0.033549082
Epoch: 4526 cost= 0.034586500
Epoch: 4527 cost= 0.032990091
Epoch: 4528 cost= 0.035067242
Epoch: 4529 cost= 0.034735907
Epoch: 4530 cost= 0.034623295
Epoch: 4531 cost= 0.034941923
Epoch: 4532 cost= 0.033556920
Epoch: 4533 cost= 0.036716994
Epoch: 4534 cost= 0.033299658
Epoch: 4535 cost= 0.033105433
Epoch: 4536 cost= 0.034112863
Epoch: 4537 cost= 0.035930537
Epoch: 4538 cost= 0.036693987
Epoch: 4539 cost= 0.036227189
Epoch: 4540 cost= 0.034703519
Epoch: 4541 cost= 0.035151176
Epoch: 4542 cost= 0.034489907
```

```
Epoch: 4543 cost= 0.035004191
Epoch: 4544 cost= 0.033411533
Epoch: 4545 cost= 0.034279570
Epoch: 4546 cost= 0.035545267
Epoch: 4547 cost= 0.032846615
Epoch: 4548 cost= 0.035580166
Epoch: 4549 cost= 0.033915412
Epoch: 4550 cost= 0.033148427
Epoch: 4551 cost= 0.033522438
Epoch: 4552 cost= 0.033043738
Epoch: 4553 cost= 0.033400364
Epoch: 4554 cost= 0.034383092
Epoch: 4555 cost= 0.034123242
Epoch: 4556 cost= 0.034698632
Epoch: 4557 cost= 0.034320068
Epoch: 4558 cost= 0.035528466
Epoch: 4559 cost= 0.034216296
Epoch: 4560 cost= 0.034950156
Epoch: 4561 cost= 0.035070471
Epoch: 4562 cost= 0.034190301
Epoch: 4563 cost= 0.034681294
Epoch: 4564 cost= 0.035198916
Epoch: 4565 cost= 0.036699940
Epoch: 4566 cost= 0.034171265
```

```
Epoch: 4567 cost= 0.034161817
Epoch: 4568 cost= 0.033090282
Epoch: 4569 cost= 0.035316318
Epoch: 4570 cost= 0.035160158
Epoch: 4571 cost= 0.034075767
Epoch: 4572 cost= 0.035420816
Epoch: 4573 cost= 0.035461921
Epoch: 4574 cost= 0.033712417
Epoch: 4575 cost= 0.034365594
Epoch: 4576 cost= 0.034535397
Epoch: 4577 cost= 0.033174831
Epoch: 4578 cost= 0.034929920
Epoch: 4579 cost= 0.034587927
Epoch: 4580 cost= 0.033038866
Epoch: 4581 cost= 0.034016900
Epoch: 4582 cost= 0.033930134
Epoch: 4583 cost= 0.034927029
Epoch: 4584 cost= 0.033262879
Epoch: 4585 cost= 0.033378240
Epoch: 4586 cost= 0.037183378
Epoch: 4587 cost= 0.032150857
Epoch: 4588 cost= 0.035697874
Epoch: 4589 cost= 0.034080826
Epoch: 4590 cost= 0.036305919
```

```
Epoch: 4591 cost= 0.035189245
Epoch: 4592 cost= 0.032417238
Epoch: 4593 cost= 0.033848155
Epoch: 4594 cost= 0.036182106
Epoch: 4595 cost= 0.033491626
Epoch: 4596 cost= 0.033887926
Epoch: 4597 cost= 0.034807082
Epoch: 4598 cost= 0.034936670
Epoch: 4599 cost= 0.035402894
Epoch: 4600 cost= 0.034470011
Epoch: 4601 cost= 0.034528777
Epoch: 4602 cost= 0.036073938
Epoch: 4603 cost= 0.034894627
Epoch: 4604 cost= 0.033299379
Epoch: 4605 cost= 0.034726210
Epoch: 4606 cost= 0.034467272
Epoch: 4607 cost= 0.033491965
Epoch: 4608 cost= 0.035690542
Epoch: 4609 cost= 0.034920458
Epoch: 4610 cost= 0.036608886
Epoch: 4611 cost= 0.032552030
Epoch: 4612 cost= 0.034199972
Epoch: 4613 cost= 0.034153912
Epoch: 4614 cost= 0.035648659
```

```
Epoch: 4615 cost= 0.033519287
Epoch: 4616 cost= 0.033726156
Epoch: 4617 cost= 0.033580784
Epoch: 4618 cost= 0.035138134
Epoch: 4619 cost= 0.034009356
Epoch: 4620 cost= 0.034049246
Epoch: 4621 cost= 0.033788055
Epoch: 4622 cost= 0.033009659
Epoch: 4623 cost= 0.033482034
Epoch: 4624 cost= 0.035092492
Epoch: 4625 cost= 0.035128344
Epoch: 4626 cost= 0.036848858
Epoch: 4627 cost= 0.034059599
Epoch: 4628 cost= 0.033496730
Epoch: 4629 cost= 0.035124015
Epoch: 4630 cost= 0.034779783
Epoch: 4631 cost= 0.033185527
Epoch: 4632 cost= 0.035214715
Epoch: 4633 cost= 0.032627489
Epoch: 4634 cost= 0.035988178
Epoch: 4635 cost= 0.033290952
Epoch: 4636 cost= 0.035115525
Epoch: 4637 cost= 0.033987533
Epoch: 4638 cost= 0.033420421
```

```
Epoch: 4639 cost= 0.036561653
Epoch: 4640 cost= 0.035430111
Epoch: 4641 cost= 0.034079086
Epoch: 4642 cost= 0.035078816
Epoch: 4643 cost= 0.034958981
Epoch: 4644 cost= 0.035974815
Epoch: 4645 cost= 0.033885580
Epoch: 4646 cost= 0.032993097
Epoch: 4647 cost= 0.034305908
Epoch: 4648 cost= 0.035600469
Epoch: 4649 cost= 0.034787688
Epoch: 4650 cost= 0.032793622
Epoch: 4651 cost= 0.033385493
Epoch: 4652 cost= 0.037053153
Epoch: 4653 cost= 0.032657672
Epoch: 4654 cost= 0.033019118
Epoch: 4655 cost= 0.033556815
Epoch: 4656 cost= 0.035516873
Epoch: 4657 cost= 0.035689037
Epoch: 4658 cost= 0.035655480
Epoch: 4659 cost= 0.035492208
Epoch: 4660 cost= 0.034979172
Epoch: 4661 cost= 0.035202689
Epoch: 4662 cost= 0.034511916
```

```
Epoch: 4663 cost= 0.033182427
Epoch: 4664 cost= 0.035645582
Epoch: 4665 cost= 0.034812145
Epoch: 4666 cost= 0.033569891
Epoch: 4667 cost= 0.033920400
Epoch: 4668 cost= 0.033502568
Epoch: 4669 cost= 0.033155188
Epoch: 4670 cost= 0.033927243
Epoch: 4671 cost= 0.035239566
Epoch: 4672 cost= 0.034152187
Epoch: 4673 cost= 0.033632055
Epoch: 4674 cost= 0.034610018
Epoch: 4675 cost= 0.034305722
Epoch: 4676 cost= 0.035086788
Epoch: 4677 cost= 0.033827994
Epoch: 4678 cost= 0.033106901
Epoch: 4679 cost= 0.035137847
Epoch: 4680 cost= 0.033748988
Epoch: 4681 cost= 0.033886850
Epoch: 4682 cost= 0.032414217
Epoch: 4683 cost= 0.036071803
Epoch: 4684 cost= 0.033201564
Epoch: 4685 cost= 0.035500586
Epoch: 4686 cost= 0.033387449
```

```
Epoch: 4687 cost= 0.033852737
Epoch: 4688 cost= 0.034156922
Epoch: 4689 cost= 0.032799292
Epoch: 4690 cost= 0.033819556
Epoch: 4691 cost= 0.035545323
Epoch: 4692 cost= 0.034087420
Epoch: 4693 cost= 0.033557966
Epoch: 4694 cost= 0.034362104
Epoch: 4695 cost= 0.034628388
Epoch: 4696 cost= 0.035206519
Epoch: 4697 cost= 0.035751391
Epoch: 4698 cost= 0.035675433
Epoch: 4699 cost= 0.035641484
Epoch: 4700 cost= 0.034699675
Epoch: 4701 cost= 0.032804690
Epoch: 4702 cost= 0.033315059
Epoch: 4703 cost= 0.035079118
Epoch: 4704 cost= 0.034447420
Epoch: 4705 cost= 0.033693328
Epoch: 4706 cost= 0.034353238
Epoch: 4707 cost= 0.032064904
Epoch: 4708 cost= 0.035034735
Epoch: 4709 cost= 0.035450917
Epoch: 4710 cost= 0.035662476
```

```
Epoch: 4711 cost= 0.034267820
Epoch: 4712 cost= 0.033581585
Epoch: 4713 cost= 0.034723081
Epoch: 4714 cost= 0.032944970
Epoch: 4715 cost= 0.033483215
Epoch: 4716 cost= 0.036224093
Epoch: 4717 cost= 0.033962801
Epoch: 4718 cost= 0.035980027
Epoch: 4719 cost= 0.032817248
Epoch: 4720 cost= 0.033640750
Epoch: 4721 cost= 0.034419265
Epoch: 4722 cost= 0.035629641
Epoch: 4723 cost= 0.033052690
Epoch: 4724 cost= 0.035745364
Epoch: 4725 cost= 0.035053082
Epoch: 4726 cost= 0.032791283
Epoch: 4727 cost= 0.033590354
Epoch: 4728 cost= 0.035548661
Epoch: 4729 cost= 0.034812033
Epoch: 4730 cost= 0.035060342
Epoch: 4731 cost= 0.034802984
Epoch: 4732 cost= 0.033576984
Epoch: 4733 cost= 0.035945687
Epoch: 4734 cost= 0.034043413
```

```
Epoch: 4735 cost= 0.032559644
Epoch: 4736 cost= 0.035092223
Epoch: 4737 cost= 0.034373838
Epoch: 4738 cost= 0.036873236
Epoch: 4739 cost= 0.032153614
Epoch: 4740 cost= 0.032828540
Epoch: 4741 cost= 0.034414325
Epoch: 4742 cost= 0.036034860
Epoch: 4743 cost= 0.033728097
Epoch: 4744 cost= 0.032997835
Epoch: 4745 cost= 0.036642853
Epoch: 4746 cost= 0.031580929
Epoch: 4747 cost= 0.034259025
Epoch: 4748 cost= 0.035262983
Epoch: 4749 cost= 0.035756707
Epoch: 4750 cost= 0.034580704
Epoch: 4751 cost= 0.035023607
Epoch: 4752 cost= 0.033477414
Epoch: 4753 cost= 0.035586406
Epoch: 4754 cost= 0.034222327
Epoch: 4755 cost= 0.035422735
Epoch: 4756 cost= 0.035315979
Epoch: 4757 cost= 0.034454383
Epoch: 4758 cost= 0.036079526
```

```
Epoch: 4759 cost= 0.032534666
Epoch: 4760 cost= 0.034876149
Epoch: 4761 cost= 0.033233158
Epoch: 4762 cost= 0.034298059
Epoch: 4763 cost= 0.035052668
Epoch: 4764 cost= 0.035831843
Epoch: 4765 cost= 0.032912951
Epoch: 4766 cost= 0.033774104
Epoch: 4767 cost= 0.036096156
Epoch: 4768 cost= 0.033670161
Epoch: 4769 cost= 0.033376880
Epoch: 4770 cost= 0.036165874
Epoch: 4771 cost= 0.033332583
Epoch: 4772 cost= 0.035685409
Epoch: 4773 cost= 0.035309184
Epoch: 4774 cost= 0.032364067
Epoch: 4775 cost= 0.033357874
Epoch: 4776 cost= 0.034642644
Epoch: 4777 cost= 0.034126010
Epoch: 4778 cost= 0.035298415
Epoch: 4779 cost= 0.036325596
Epoch: 4780 cost= 0.033946633
Epoch: 4781 cost= 0.032410622
Epoch: 4782 cost= 0.035134830
```

```
Epoch: 4783 cost= 0.033241715
Epoch: 4784 cost= 0.035279788
Epoch: 4785 cost= 0.033052035
Epoch: 4786 cost= 0.034821302
Epoch: 4787 cost= 0.034346435
Epoch: 4788 cost= 0.034310017
Epoch: 4789 cost= 0.033896003
Epoch: 4790 cost= 0.035052203
Epoch: 4791 cost= 0.033865798
Epoch: 4792 cost= 0.035836376
Epoch: 4793 cost= 0.034594949
Epoch: 4794 cost= 0.033886597
Epoch: 4795 cost= 0.033837393
Epoch: 4796 cost= 0.034860384
Epoch: 4797 cost= 0.035207056
Epoch: 4798 cost= 0.033451885
Epoch: 4799 cost= 0.035272632
Epoch: 4800 cost= 0.034269344
Epoch: 4801 cost= 0.032305151
Epoch: 4802 cost= 0.037146445
Epoch: 4803 cost= 0.034334321
Epoch: 4804 cost= 0.036365274
Epoch: 4805 cost= 0.035715118
Epoch: 4806 cost= 0.033032104
```

```
Epoch: 4807 cost= 0.034377594
Epoch: 4808 cost= 0.031760391
Epoch: 4809 cost= 0.037031304
Epoch: 4810 cost= 0.034497164
Epoch: 4811 cost= 0.034326106
Epoch: 4812 cost= 0.034645084
Epoch: 4813 cost= 0.034099277
Epoch: 4814 cost= 0.034062080
Epoch: 4815 cost= 0.033556405
Epoch: 4816 cost= 0.034804251
Epoch: 4817 cost= 0.034677412
Epoch: 4818 cost= 0.033791602
Epoch: 4819 cost= 0.034553900
Epoch: 4820 cost= 0.036919352
Epoch: 4821 cost= 0.033544805
Epoch: 4822 cost= 0.036131572
Epoch: 4823 cost= 0.034288581
Epoch: 4824 cost= 0.035996489
Epoch: 4825 cost= 0.032918219
Epoch: 4826 cost= 0.033224713
Epoch: 4827 cost= 0.033794828
Epoch: 4828 cost= 0.035000976
Epoch: 4829 cost= 0.036226418
Epoch: 4830 cost= 0.034465294
```

```
Epoch: 4831 cost= 0.035458200
Epoch: 4832 cost= 0.034794923
Epoch: 4833 cost= 0.034969319
Epoch: 4834 cost= 0.032596726
Epoch: 4835 cost= 0.033345114
Epoch: 4836 cost= 0.035280317
Epoch: 4837 cost= 0.031793647
Epoch: 4838 cost= 0.033475827
Epoch: 4839 cost= 0.034780793
Epoch: 4840 cost= 0.035043180
Epoch: 4841 cost= 0.034406573
Epoch: 4842 cost= 0.033505592
Epoch: 4843 cost= 0.037092824
Epoch: 4844 cost= 0.033719793
Epoch: 4845 cost= 0.034888390
Epoch: 4846 cost= 0.033893801
Epoch: 4847 cost= 0.034469474
Epoch: 4848 cost= 0.033177938
Epoch: 4849 cost= 0.035484664
Epoch: 4850 cost= 0.035561826
Epoch: 4851 cost= 0.034731977
Epoch: 4852 cost= 0.034637410
Epoch: 4853 cost= 0.036479969
Epoch: 4854 cost= 0.034651957
```

```
Epoch: 4855 cost= 0.034571771
Epoch: 4856 cost= 0.035761785
Epoch: 4857 cost= 0.033799842
Epoch: 4858 cost= 0.033412628
Epoch: 4859 cost= 0.031626947
Epoch: 4860 cost= 0.033825774
Epoch: 4861 cost= 0.033096816
Epoch: 4862 cost= 0.033483651
Epoch: 4863 cost= 0.033064567
Epoch: 4864 cost= 0.036083639
Epoch: 4865 cost= 0.032788150
Epoch: 4866 cost= 0.034622077
Epoch: 4867 cost= 0.034482982
Epoch: 4868 cost= 0.035248142
Epoch: 4869 cost= 0.034802191
Epoch: 4870 cost= 0.033696763
Epoch: 4871 cost= 0.035218760
Epoch: 4872 cost= 0.035453625
Epoch: 4873 cost= 0.033684775
Epoch: 4874 cost= 0.032349948
Epoch: 4875 cost= 0.034240242
Epoch: 4876 cost= 0.034914538
Epoch: 4877 cost= 0.034066044
Epoch: 4878 cost= 0.035380226
```

```
Epoch: 4879 cost= 0.036319666
Epoch: 4880 cost= 0.034619160
Epoch: 4881 cost= 0.034885515
Epoch: 4882 cost= 0.033447243
Epoch: 4883 cost= 0.035022102
Epoch: 4884 cost= 0.033767983
Epoch: 4885 cost= 0.035007719
Epoch: 4886 cost= 0.033830542
Epoch: 4887 cost= 0.034994733
Epoch: 4888 cost= 0.035118427
Epoch: 4889 cost= 0.035547618
Epoch: 4890 cost= 0.033484444
Epoch: 4891 cost= 0.033928797
Epoch: 4892 cost= 0.032728195
Epoch: 4893 cost= 0.033890665
Epoch: 4894 cost= 0.034681849
Epoch: 4895 cost= 0.035673209
Epoch: 4896 cost= 0.034834977
Epoch: 4897 cost= 0.032837283
Epoch: 4898 cost= 0.034373812
Epoch: 4899 cost= 0.035878465
Epoch: 4900 cost= 0.033947267
Epoch: 4901 cost= 0.035077825
Epoch: 4902 cost= 0.034117505
```

```
Epoch: 4903 cost= 0.034362964
Epoch: 4904 cost= 0.035108425
Epoch: 4905 cost= 0.034840163
Epoch: 4906 cost= 0.035918977
Epoch: 4907 cost= 0.034071825
Epoch: 4908 cost= 0.033099130
Epoch: 4909 cost= 0.034642790
Epoch: 4910 cost= 0.035981588
Epoch: 4911 cost= 0.035628729
Epoch: 4912 cost= 0.036039490
Epoch: 4913 cost= 0.035464764
Epoch: 4914 cost= 0.034218982
Epoch: 4915 cost= 0.035707727
Epoch: 4916 cost= 0.033800900
Epoch: 4917 cost= 0.032411713
Epoch: 4918 cost= 0.033728529
Epoch: 4919 cost= 0.034725051
Epoch: 4920 cost= 0.033019040
Epoch: 4921 cost= 0.036161486
Epoch: 4922 cost= 0.034834214
Epoch: 4923 cost= 0.036157444
Epoch: 4924 cost= 0.035228122
Epoch: 4925 cost= 0.034506742
Epoch: 4926 cost= 0.035675991
```

```
Epoch: 4927 cost= 0.034034129
Epoch: 4928 cost= 0.032227196
Epoch: 4929 cost= 0.035341740
Epoch: 4930 cost= 0.031961344
Epoch: 4931 cost= 0.035500046
Epoch: 4932 cost= 0.033674330
Epoch: 4933 cost= 0.033393964
Epoch: 4934 cost= 0.034294926
Epoch: 4935 cost= 0.033158332
Epoch: 4936 cost= 0.033893079
Epoch: 4937 cost= 0.032370832
Epoch: 4938 cost= 0.034449041
Epoch: 4939 cost= 0.033333734
Epoch: 4940 cost= 0.034317784
Epoch: 4941 cost= 0.033549231
Epoch: 4942 cost= 0.035652928
Epoch: 4943 cost= 0.033239037
Epoch: 4944 cost= 0.033553727
Epoch: 4945 cost= 0.033720661
Epoch: 4946 cost= 0.032957643
Epoch: 4947 cost= 0.033365827
Epoch: 4948 cost= 0.034266017
Epoch: 4949 cost= 0.035645802
Epoch: 4950 cost= 0.034406684
```

```
Epoch: 4951 cost= 0.034195203
Epoch: 4952 cost= 0.034735471
Epoch: 4953 cost= 0.033374179
Epoch: 4954 cost= 0.032891169
Epoch: 4955 cost= 0.035068389
Epoch: 4956 cost= 0.034979712
Epoch: 4957 cost= 0.033358388
Epoch: 4958 cost= 0.033419136
Epoch: 4959 cost= 0.034970440
Epoch: 4960 cost= 0.035277288
Epoch: 4961 cost= 0.033912197
Epoch: 4962 cost= 0.035398759
Epoch: 4963 cost= 0.033080805
Epoch: 4964 cost= 0.036322638
Epoch: 4965 cost= 0.034476086
Epoch: 4966 cost= 0.035434011
Epoch: 4967 cost= 0.034192547
Epoch: 4968 cost= 0.034584709
Epoch: 4969 cost= 0.035548326
Epoch: 4970 cost= 0.033416241
Epoch: 4971 cost= 0.032605778
Epoch: 4972 cost= 0.034760036
Epoch: 4973 cost= 0.034508388
Epoch: 4974 cost= 0.035217118
```

```
Epoch: 4975 cost= 0.032950200
Epoch: 4976 cost= 0.036104754
Epoch: 4977 cost= 0.033199772
Epoch: 4978 cost= 0.035008281
Epoch: 4979 cost= 0.033198185
Epoch: 4980 cost= 0.033523094
Epoch: 4981 cost= 0.033171780
Epoch: 4982 cost= 0.034142733
Epoch: 4983 cost= 0.033637032
Epoch: 4984 cost= 0.034654640
Epoch: 4985 cost= 0.035424072
Epoch: 4986 cost= 0.034296606
Epoch: 4987 cost= 0.036823031
Epoch: 4988 cost= 0.033473164
Epoch: 4989 cost= 0.032994613
Epoch: 4990 cost= 0.035354953
Epoch: 4991 cost= 0.034252390
Epoch: 4992 cost= 0.033782933
Epoch: 4993 cost= 0.035832647
Epoch: 4994 cost= 0.033260062
Epoch: 4995 cost= 0.033413131
Epoch: 4996 cost= 0.035250902
Epoch: 4997 cost= 0.034237999
Epoch: 4998 cost= 0.033898450
```

```
Epoch: 4999 cost= 0.034680322
Epoch: 5000 cost= 0.033829033
Epoch: 5001 cost= 0.033031415
Epoch: 5002 cost= 0.033509701
Epoch: 5003 cost= 0.035822578
Epoch: 5004 cost= 0.035059609
Epoch: 5005 cost= 0.035551228
Epoch: 5006 cost= 0.032771345
Epoch: 5007 cost= 0.035227448
Epoch: 5008 cost= 0.033722609
Epoch: 5009 cost= 0.036383014
Epoch: 5010 cost= 0.033265784
Epoch: 5011 cost= 0.035003547
Epoch: 5012 cost= 0.034455240
Epoch: 5013 cost= 0.031746529
Epoch: 5014 cost= 0.032757469
Epoch: 5015 cost= 0.032182723
Epoch: 5016 cost= 0.035409439
Epoch: 5017 cost= 0.036326539
Epoch: 5018 cost= 0.034966171
Epoch: 5019 cost= 0.033797529
Epoch: 5020 cost= 0.033140518
Epoch: 5021 cost= 0.035422891
Epoch: 5022 cost= 0.034480654
```

```
Epoch: 5023 cost= 0.034947291
Epoch: 5024 cost= 0.033662491
Epoch: 5025 cost= 0.033256728
Epoch: 5026 cost= 0.034337744
Epoch: 5027 cost= 0.035663281
Epoch: 5028 cost= 0.036082551
Epoch: 5029 cost= 0.031667612
Epoch: 5030 cost= 0.033529378
Epoch: 5031 cost= 0.032963201
Epoch: 5032 cost= 0.033427753
Epoch: 5033 cost= 0.033571530
Epoch: 5034 cost= 0.035421733
Epoch: 5035 cost= 0.036132466
Epoch: 5036 cost= 0.036430825
Epoch: 5037 cost= 0.032651540
Epoch: 5038 cost= 0.033824831
Epoch: 5039 cost= 0.034457888
Epoch: 5040 cost= 0.035054844
Epoch: 5041 cost= 0.033479940
Epoch: 5042 cost= 0.034397718
Epoch: 5043 cost= 0.035072766
Epoch: 5044 cost= 0.033973839
Epoch: 5045 cost= 0.034533538
Epoch: 5046 cost= 0.036749862
```

```
Epoch: 5047 cost= 0.037550930
Epoch: 5048 cost= 0.034312878
Epoch: 5049 cost= 0.036536291
Epoch: 5050 cost= 0.035094883
Epoch: 5051 cost= 0.034901340
Epoch: 5052 cost= 0.034856699
Epoch: 5053 cost= 0.037253711
Epoch: 5054 cost= 0.034165382
Epoch: 5055 cost= 0.034313522
Epoch: 5056 cost= 0.033513799
Epoch: 5057 cost= 0.031930212
Epoch: 5058 cost= 0.034330927
Epoch: 5059 cost= 0.035306595
Epoch: 5060 cost= 0.034812372
Epoch: 5061 cost= 0.034895547
Epoch: 5062 cost= 0.033784438
Epoch: 5063 cost= 0.034474004
Epoch: 5064 cost= 0.036212690
Epoch: 5065 cost= 0.033178620
Epoch: 5066 cost= 0.033205777
Epoch: 5067 cost= 0.034327082
Epoch: 5068 cost= 0.033462077
Epoch: 5069 cost= 0.032922558
Epoch: 5070 cost= 0.032304585
```

```
Epoch: 5071 cost= 0.034610838
Epoch: 5072 cost= 0.034754377
Epoch: 5073 cost= 0.035395276
Epoch: 5074 cost= 0.034862246
Epoch: 5075 cost= 0.034025174
Epoch: 5076 cost= 0.033743177
Epoch: 5077 cost= 0.036027711
Epoch: 5078 cost= 0.034141667
Epoch: 5079 cost= 0.034292255
Epoch: 5080 cost= 0.034439940
Epoch: 5081 cost= 0.035802845
Epoch: 5082 cost= 0.035273567
Epoch: 5083 cost= 0.033996414
Epoch: 5084 cost= 0.033841096
Epoch: 5085 cost= 0.034370713
Epoch: 5086 cost= 0.034417514
Epoch: 5087 cost= 0.034169793
Epoch: 5088 cost= 0.033832707
Epoch: 5089 cost= 0.034572303
Epoch: 5090 cost= 0.033060554
Epoch: 5091 cost= 0.034958400
Epoch: 5092 cost= 0.034122288
Epoch: 5093 cost= 0.033105258
Epoch: 5094 cost= 0.033185370
```

```
Epoch: 5095 cost= 0.033326458
Epoch: 5096 cost= 0.035861023
Epoch: 5097 cost= 0.034597736
Epoch: 5098 cost= 0.035738908
Epoch: 5099 cost= 0.035937496
Epoch: 5100 cost= 0.033774890
Epoch: 5101 cost= 0.034456551
Epoch: 5102 cost= 0.035181522
Epoch: 5103 cost= 0.035040442
Epoch: 5104 cost= 0.033347491
Epoch: 5105 cost= 0.032998484
Epoch: 5106 cost= 0.034562994
Epoch: 5107 cost= 0.033899955
Epoch: 5108 cost= 0.033391804
Epoch: 5109 cost= 0.034343988
Epoch: 5110 cost= 0.035263669
Epoch: 5111 cost= 0.033475250
Epoch: 5112 cost= 0.033045232
Epoch: 5113 cost= 0.034407459
Epoch: 5114 cost= 0.035819642
Epoch: 5115 cost= 0.035317194
Epoch: 5116 cost= 0.033140276
Epoch: 5117 cost= 0.033491984
Epoch: 5118 cost= 0.032353550
```

```
Epoch: 5119 cost= 0.035054307
Epoch: 5120 cost= 0.033336375
Epoch: 5121 cost= 0.034516063
Epoch: 5122 cost= 0.034557026
Epoch: 5123 cost= 0.034338728
Epoch: 5124 cost= 0.034136549
Epoch: 5125 cost= 0.036199499
Epoch: 5126 cost= 0.035893053
Epoch: 5127 cost= 0.034178749
Epoch: 5128 cost= 0.032956313
Epoch: 5129 cost= 0.033462990
Epoch: 5130 cost= 0.034975715
Epoch: 5131 cost= 0.035734005
Epoch: 5132 cost= 0.033325609
Epoch: 5133 cost= 0.033834469
Epoch: 5134 cost= 0.034937408
Epoch: 5135 cost= 0.032887757
Epoch: 5136 cost= 0.036422476
Epoch: 5137 cost= 0.035582412
Epoch: 5138 cost= 0.035605840
Epoch: 5139 cost= 0.035661303
Epoch: 5140 cost= 0.034649603
Epoch: 5141 cost= 0.034300044
Epoch: 5142 cost= 0.035028677
```

```
Epoch: 5143 cost= 0.034446232
Epoch: 5144 cost= 0.031791877
Epoch: 5145 cost= 0.033229921
Epoch: 5146 cost= 0.032450639
Epoch: 5147 cost= 0.035025083
Epoch: 5148 cost= 0.035184540
Epoch: 5149 cost= 0.036708985
Epoch: 5150 cost= 0.034377158
Epoch: 5151 cost= 0.033572912
Epoch: 5152 cost= 0.034592055
Epoch: 5153 cost= 0.034344535
Epoch: 5154 cost= 0.036818404
Epoch: 5155 cost= 0.035278648
Epoch: 5156 cost= 0.035232861
Epoch: 5157 cost= 0.034190174
Epoch: 5158 cost= 0.035776857
Epoch: 5159 cost= 0.035557799
Epoch: 5160 cost= 0.035297692
Epoch: 5161 cost= 0.032785922
Epoch: 5162 cost= 0.035384063
Epoch: 5163 cost= 0.035391055
Epoch: 5164 cost= 0.035634186
Epoch: 5165 cost= 0.033484884
Epoch: 5166 cost= 0.035016336
```

```
Epoch: 5167 cost= 0.033404522
Epoch: 5168 cost= 0.034692496
Epoch: 5169 cost= 0.033762615
Epoch: 5170 cost= 0.033511151
Epoch: 5171 cost= 0.033775821
Epoch: 5172 cost= 0.033724044
Epoch: 5173 cost= 0.034502823
Epoch: 5174 cost= 0.033752136
Epoch: 5175 cost= 0.034244914
Epoch: 5176 cost= 0.034841642
Epoch: 5177 cost= 0.033893492
Epoch: 5178 cost= 0.033718780
Epoch: 5179 cost= 0.035552386
Epoch: 5180 cost= 0.033255953
Epoch: 5181 cost= 0.033968531
Epoch: 5182 cost= 0.033809505
Epoch: 5183 cost= 0.032674856
Epoch: 5184 cost= 0.033953924
Epoch: 5185 cost= 0.035743743
Epoch: 5186 cost= 0.034882829
Epoch: 5187 cost= 0.034889132
Epoch: 5188 cost= 0.035325766
Epoch: 5189 cost= 0.034874212
Epoch: 5190 cost= 0.035484869
```

```
Epoch: 5191 cost= 0.035378266
Epoch: 5192 cost= 0.031426538
Epoch: 5193 cost= 0.034321032
Epoch: 5194 cost= 0.033887789
Epoch: 5195 cost= 0.035911452
Epoch: 5196 cost= 0.033040736
Epoch: 5197 cost= 0.033469491
Epoch: 5198 cost= 0.033542901
Epoch: 5199 cost= 0.032372348
Epoch: 5200 cost= 0.034395427
Epoch: 5201 cost= 0.034029990
Epoch: 5202 cost= 0.035533663
Epoch: 5203 cost= 0.034895513
Epoch: 5204 cost= 0.033365559
Epoch: 5205 cost= 0.033287458
Epoch: 5206 cost= 0.033949628
Epoch: 5207 cost= 0.034805711
Epoch: 5208 cost= 0.035410658
Epoch: 5209 cost= 0.033873562
Epoch: 5210 cost= 0.033418160
Epoch: 5211 cost= 0.033361718
Epoch: 5212 cost= 0.035032101
Epoch: 5213 cost= 0.032428008
Epoch: 5214 cost= 0.037962116
```

```
Epoch: 5215 cost= 0.035340186
Epoch: 5216 cost= 0.033489026
Epoch: 5217 cost= 0.033761293
Epoch: 5218 cost= 0.034412593
Epoch: 5219 cost= 0.033789147
Epoch: 5220 cost= 0.033093672
Epoch: 5221 cost= 0.031436328
Epoch: 5222 cost= 0.034199569
Epoch: 5223 cost= 0.033186324
Epoch: 5224 cost= 0.034965321
Epoch: 5225 cost= 0.032930996
Epoch: 5226 cost= 0.033932116
Epoch: 5227 cost= 0.031526614
Epoch: 5228 cost= 0.033705890
Epoch: 5229 cost= 0.033093370
Epoch: 5230 cost= 0.032273926
Epoch: 5231 cost= 0.035335731
Epoch: 5232 cost= 0.035400014
Epoch: 5233 cost= 0.034550466
Epoch: 5234 cost= 0.032026105
Epoch: 5235 cost= 0.032077171
Epoch: 5236 cost= 0.033606227
Epoch: 5237 cost= 0.032900028
Epoch: 5238 cost= 0.032253772
```

```
Epoch: 5239 cost= 0.033157747
Epoch: 5240 cost= 0.034444280
Epoch: 5241 cost= 0.034788370
Epoch: 5242 cost= 0.034288529
Epoch: 5243 cost= 0.033656456
Epoch: 5244 cost= 0.034272045
Epoch: 5245 cost= 0.033085268
Epoch: 5246 cost= 0.033311218
Epoch: 5247 cost= 0.033384297
Epoch: 5248 cost= 0.032661289
Epoch: 5249 cost= 0.033846319
Epoch: 5250 cost= 0.033234488
Epoch: 5251 cost= 0.032411460
Epoch: 5252 cost= 0.034695972
Epoch: 5253 cost= 0.034300055
Epoch: 5254 cost= 0.031934537
Epoch: 5255 cost= 0.033395860
Epoch: 5256 cost= 0.032892562
Epoch: 5257 cost= 0.037102986
Epoch: 5258 cost= 0.032538299
Epoch: 5259 cost= 0.033362400
Epoch: 5260 cost= 0.034327459
Epoch: 5261 cost= 0.034650315
Epoch: 5262 cost= 0.033429492
```

```
Epoch: 5263 cost= 0.033349659
Epoch: 5264 cost= 0.035008110
Epoch: 5265 cost= 0.034543723
Epoch: 5266 cost= 0.032944929
Epoch: 5267 cost= 0.035684813
Epoch: 5268 cost= 0.034330878
Epoch: 5269 cost= 0.034456737
Epoch: 5270 cost= 0.034514703
Epoch: 5271 cost= 0.035064209
Epoch: 5272 cost= 0.035214774
Epoch: 5273 cost= 0.034393631
Epoch: 5274 cost= 0.032930657
Epoch: 5275 cost= 0.032983005
Epoch: 5276 cost= 0.032320257
Epoch: 5277 cost= 0.033592150
Epoch: 5278 cost= 0.034230277
Epoch: 5279 cost= 0.032881808
Epoch: 5280 cost= 0.034119401
Epoch: 5281 cost= 0.035691559
Epoch: 5282 cost= 0.032238346
Epoch: 5283 cost= 0.033709910
Epoch: 5284 cost= 0.033704892
Epoch: 5285 cost= 0.034100328
Epoch: 5286 cost= 0.034332145
```

```
Epoch: 5287 cost= 0.035782166
Epoch: 5288 cost= 0.033594821
Epoch: 5289 cost= 0.033712361
Epoch: 5290 cost= 0.035693496
Epoch: 5291 cost= 0.035526399
Epoch: 5292 cost= 0.034613498
Epoch: 5293 cost= 0.032183722
Epoch: 5294 cost= 0.035085455
Epoch: 5295 cost= 0.034853358
Epoch: 5296 cost= 0.033877824
Epoch: 5297 cost= 0.034798045
Epoch: 5298 cost= 0.036646701
Epoch: 5299 cost= 0.036248583
Epoch: 5300 cost= 0.032810029
Epoch: 5301 cost= 0.033713520
Epoch: 5302 cost= 0.033056371
Epoch: 5303 cost= 0.033868838
Epoch: 5304 cost= 0.033606470
Epoch: 5305 cost= 0.034821592
Epoch: 5306 cost= 0.035193276
Epoch: 5307 cost= 0.033472121
Epoch: 5308 cost= 0.034331542
Epoch: 5309 cost= 0.034583036
Epoch: 5310 cost= 0.033891093
```

```
Epoch: 5311 cost= 0.033232216
Epoch: 5312 cost= 0.032710649
Epoch: 5313 cost= 0.032647811
Epoch: 5314 cost= 0.032450989
Epoch: 5315 cost= 0.035741024
Epoch: 5316 cost= 0.033931840
Epoch: 5317 cost= 0.034648445
Epoch: 5318 cost= 0.035515886
Epoch: 5319 cost= 0.034871958
Epoch: 5320 cost= 0.035786517
Epoch: 5321 cost= 0.034473725
Epoch: 5322 cost= 0.036727697
Epoch: 5323 cost= 0.032926109
Epoch: 5324 cost= 0.032744557
Epoch: 5325 cost= 0.033577554
Epoch: 5326 cost= 0.033437852
Epoch: 5327 cost= 0.034215789
Epoch: 5328 cost= 0.034325130
Epoch: 5329 cost= 0.033544317
Epoch: 5330 cost= 0.034507446
Epoch: 5331 cost= 0.036921371
Epoch: 5332 cost= 0.034057111
Epoch: 5333 cost= 0.033698663
Epoch: 5334 cost= 0.033518095
```

```
Epoch: 5335 cost= 0.033399235
Epoch: 5336 cost= 0.032779984
Epoch: 5337 cost= 0.030948013
Epoch: 5338 cost= 0.032776926
Epoch: 5339 cost= 0.034020841
Epoch: 5340 cost= 0.033848353
Epoch: 5341 cost= 0.034642402
Epoch: 5342 cost= 0.034096960
Epoch: 5343 cost= 0.034155861
Epoch: 5344 cost= 0.033903368
Epoch: 5345 cost= 0.032352749
Epoch: 5346 cost= 0.032852948
Epoch: 5347 cost= 0.035385396
Epoch: 5348 cost= 0.034014832
Epoch: 5349 cost= 0.033367820
Epoch: 5350 cost= 0.033461496
Epoch: 5351 cost= 0.033058230
Epoch: 5352 cost= 0.034193806
Epoch: 5353 cost= 0.035893492
Epoch: 5354 cost= 0.036200065
Epoch: 5355 cost= 0.035151571
Epoch: 5356 cost= 0.035008281
Epoch: 5357 cost= 0.034302469
Epoch: 5358 cost= 0.033600826
```

```
Epoch: 5359 cost= 0.033656280
Epoch: 5360 cost= 0.035978254
Epoch: 5361 cost= 0.033226024
Epoch: 5362 cost= 0.035342887
Epoch: 5363 cost= 0.033902824
Epoch: 5364 cost= 0.033149712
Epoch: 5365 cost= 0.035605274
Epoch: 5366 cost= 0.032988105
Epoch: 5367 cost= 0.033032473
Epoch: 5368 cost= 0.035012942
Epoch: 5369 cost= 0.032936879
Epoch: 5370 cost= 0.035029493
Epoch: 5371 cost= 0.035074271
Epoch: 5372 cost= 0.031587768
Epoch: 5373 cost= 0.033563394
Epoch: 5374 cost= 0.033843268
Epoch: 5375 cost= 0.034708083
Epoch: 5376 cost= 0.035625368
Epoch: 5377 cost= 0.035411466
Epoch: 5378 cost= 0.032740656
Epoch: 5379 cost= 0.034919340
Epoch: 5380 cost= 0.034534872
Epoch: 5381 cost= 0.034367640
Epoch: 5382 cost= 0.034289233
```

```
Epoch: 5383 cost= 0.033874922
Epoch: 5384 cost= 0.035232063
Epoch: 5385 cost= 0.033873700
Epoch: 5386 cost= 0.034112375
Epoch: 5387 cost= 0.034091800
Epoch: 5388 cost= 0.034946803
Epoch: 5389 cost= 0.034151636
Epoch: 5390 cost= 0.033187836
Epoch: 5391 cost= 0.036244720
Epoch: 5392 cost= 0.033091567
Epoch: 5393 cost= 0.033486504
Epoch: 5394 cost= 0.034895927
Epoch: 5395 cost= 0.036020219
Epoch: 5396 cost= 0.033210881
Epoch: 5397 cost= 0.035323851
Epoch: 5398 cost= 0.032919653
Epoch: 5399 cost= 0.032903973
Epoch: 5400 cost= 0.034806915
Epoch: 5401 cost= 0.034000799
Epoch: 5402 cost= 0.032800734
Epoch: 5403 cost= 0.033830807
Epoch: 5404 cost= 0.034449130
Epoch: 5405 cost= 0.033438906
Epoch: 5406 cost= 0.036073260
```

```
Epoch: 5407 cost= 0.033850066
Epoch: 5408 cost= 0.036006514
Epoch: 5409 cost= 0.034202740
Epoch: 5410 cost= 0.033161353
Epoch: 5411 cost= 0.033227593
Epoch: 5412 cost= 0.031488709
Epoch: 5413 cost= 0.036376815
Epoch: 5414 cost= 0.034416124
Epoch: 5415 cost= 0.034673717
Epoch: 5416 cost= 0.033935107
Epoch: 5417 cost= 0.033558946
Epoch: 5418 cost= 0.033268943
Epoch: 5419 cost= 0.034353696
Epoch: 5420 cost= 0.035806544
Epoch: 5421 cost= 0.035887357
Epoch: 5422 cost= 0.035869773
Epoch: 5423 cost= 0.033505205
Epoch: 5424 cost= 0.032661945
Epoch: 5425 cost= 0.034760926
Epoch: 5426 cost= 0.033065274
Epoch: 5427 cost= 0.033686955
Epoch: 5428 cost= 0.033740252
Epoch: 5429 cost= 0.036340326
Epoch: 5430 cost= 0.033406377
```

```
Epoch: 5431 cost= 0.033820104
Epoch: 5432 cost= 0.035045911
Epoch: 5433 cost= 0.032993287
Epoch: 5434 cost= 0.035945110
Epoch: 5435 cost= 0.034142133
Epoch: 5436 cost= 0.033850484
Epoch: 5437 cost= 0.035106204
Epoch: 5438 cost= 0.033787858
Epoch: 5439 cost= 0.034414101
Epoch: 5440 cost= 0.034531165
Epoch: 5441 cost= 0.035515860
Epoch: 5442 cost= 0.031314965
Epoch: 5443 cost= 0.035696417
Epoch: 5444 cost= 0.035003275
Epoch: 5445 cost= 0.032000665
Epoch: 5446 cost= 0.033132810
Epoch: 5447 cost= 0.036671601
Epoch: 5448 cost= 0.033576734
Epoch: 5449 cost= 0.034813315
Epoch: 5450 cost= 0.036115251
Epoch: 5451 cost= 0.033094168
Epoch: 5452 cost= 0.034805238
Epoch: 5453 cost= 0.034267858
Epoch: 5454 cost= 0.032913130
```

```
Epoch: 5455 cost= 0.035692465
Epoch: 5456 cost= 0.032663144
Epoch: 5457 cost= 0.033914585
Epoch: 5458 cost= 0.034576546
Epoch: 5459 cost= 0.031659964
Epoch: 5460 cost= 0.033680465
Epoch: 5461 cost= 0.035946801
Epoch: 5462 cost= 0.035402998
Epoch: 5463 cost= 0.032999340
Epoch: 5464 cost= 0.036551677
Epoch: 5465 cost= 0.034855302
Epoch: 5466 cost= 0.033280950
Epoch: 5467 cost= 0.033409767
Epoch: 5468 cost= 0.032992154
Epoch: 5469 cost= 0.033339188
Epoch: 5470 cost= 0.035049506
Epoch: 5471 cost= 0.035962645
Epoch: 5472 cost= 0.032849912
Epoch: 5473 cost= 0.035334729
Epoch: 5474 cost= 0.033794317
Epoch: 5475 cost= 0.033414274
Epoch: 5476 cost= 0.033651307
Epoch: 5477 cost= 0.034331057
Epoch: 5478 cost= 0.032617230
```

```
Epoch: 5479 cost= 0.032261707
Epoch: 5480 cost= 0.033671949
Epoch: 5481 cost= 0.034112580
Epoch: 5482 cost= 0.034487884
Epoch: 5483 cost= 0.033884618
Epoch: 5484 cost= 0.035484713
Epoch: 5485 cost= 0.032924432
Epoch: 5486 cost= 0.034097098
Epoch: 5487 cost= 0.035282988
Epoch: 5488 cost= 0.034345854
Epoch: 5489 cost= 0.031864524
Epoch: 5490 cost= 0.033638395
Epoch: 5491 cost= 0.035675686
Epoch: 5492 cost= 0.032599214
Epoch: 5493 cost= 0.035010692
Epoch: 5494 cost= 0.034454666
Epoch: 5495 cost= 0.034867074
Epoch: 5496 cost= 0.036444776
Epoch: 5497 cost= 0.034951251
Epoch: 5498 cost= 0.034816328
Epoch: 5499 cost= 0.033904620
Epoch: 5500 cost= 0.036284879
Epoch: 5501 cost= 0.034219846
Epoch: 5502 cost= 0.034508303
```

```
Epoch: 5503 cost= 0.033476245
Epoch: 5504 cost= 0.033524118
Epoch: 5505 cost= 0.033717595
Epoch: 5506 cost= 0.034118179
Epoch: 5507 cost= 0.032581437
Epoch: 5508 cost= 0.035591520
Epoch: 5509 cost= 0.034264639
Epoch: 5510 cost= 0.034992345
Epoch: 5511 cost= 0.034648780
Epoch: 5512 cost= 0.033750817
Epoch: 5513 cost= 0.034436084
Epoch: 5514 cost= 0.035988390
Epoch: 5515 cost= 0.032993380
Epoch: 5516 cost= 0.033554949
Epoch: 5517 cost= 0.035031982
Epoch: 5518 cost= 0.036387496
Epoch: 5519 cost= 0.034829900
Epoch: 5520 cost= 0.033549100
Epoch: 5521 cost= 0.034438949
Epoch: 5522 cost= 0.033277933
Epoch: 5523 cost= 0.033811286
Epoch: 5524 cost= 0.033145081
Epoch: 5525 cost= 0.033298362
Epoch: 5526 cost= 0.034018315
```

```
Epoch: 5527 cost= 0.034529213
Epoch: 5528 cost= 0.033129402
Epoch: 5529 cost= 0.034115143
Epoch: 5530 cost= 0.035731222
Epoch: 5531 cost= 0.034528404
Epoch: 5532 cost= 0.032597050
Epoch: 5533 cost= 0.034762513
Epoch: 5534 cost= 0.035779040
Epoch: 5535 cost= 0.033595331
Epoch: 5536 cost= 0.034785490
Epoch: 5537 cost= 0.034340467
Epoch: 5538 cost= 0.033850275
Epoch: 5539 cost= 0.036745120
Epoch: 5540 cost= 0.035082147
Epoch: 5541 cost= 0.034582429
Epoch: 5542 cost= 0.035575174
Epoch: 5543 cost= 0.032988038
Epoch: 5544 cost= 0.033925418
Epoch: 5545 cost= 0.034783915
Epoch: 5546 cost= 0.036346752
Epoch: 5547 cost= 0.035069712
Epoch: 5548 cost= 0.034870431
Epoch: 5549 cost= 0.033397850
Epoch: 5550 cost= 0.035675991
```

```
Epoch: 5551 cost= 0.033628587
Epoch: 5552 cost= 0.032385916
Epoch: 5553 cost= 0.033876900
Epoch: 5554 cost= 0.034253441
Epoch: 5555 cost= 0.032566376
Epoch: 5556 cost= 0.032763757
Epoch: 5557 cost= 0.033368260
Epoch: 5558 cost= 0.033154715
Epoch: 5559 cost= 0.032832958
Epoch: 5560 cost= 0.034336507
Epoch: 5561 cost= 0.034219414
Epoch: 5562 cost= 0.034180436
Epoch: 5563 cost= 0.033223011
Epoch: 5564 cost= 0.032961696
Epoch: 5565 cost= 0.034195222
Epoch: 5566 cost= 0.031180007
Epoch: 5567 cost= 0.037165955
Epoch: 5568 cost= 0.033753406
Epoch: 5569 cost= 0.034136992
Epoch: 5570 cost= 0.034306694
Epoch: 5571 cost= 0.034714326
Epoch: 5572 cost= 0.032353848
Epoch: 5573 cost= 0.034995433
Epoch: 5574 cost= 0.034520980
```

```
Epoch: 5575 cost= 0.036345527
Epoch: 5576 cost= 0.033335205
Epoch: 5577 cost= 0.033137571
Epoch: 5578 cost= 0.034280796
Epoch: 5579 cost= 0.032781873
Epoch: 5580 cost= 0.033377726
Epoch: 5581 cost= 0.034086693
Epoch: 5582 cost= 0.034058508
Epoch: 5583 cost= 0.033363312
Epoch: 5584 cost= 0.035007615
Epoch: 5585 cost= 0.033490550
Epoch: 5586 cost= 0.036248829
Epoch: 5587 cost= 0.033623397
Epoch: 5588 cost= 0.036102608
Epoch: 5589 cost= 0.034931935
Epoch: 5590 cost= 0.034447245
Epoch: 5591 cost= 0.034357570
Epoch: 5592 cost= 0.033978518
Epoch: 5593 cost= 0.033416759
Epoch: 5594 cost= 0.032138065
Epoch: 5595 cost= 0.034397751
Epoch: 5596 cost= 0.032279838
Epoch: 5597 cost= 0.036162179
Epoch: 5598 cost= 0.033939894
```

```
Epoch: 5599 cost= 0.032772772
Epoch: 5600 cost= 0.033515994
Epoch: 5601 cost= 0.035128884
Epoch: 5602 cost= 0.036854818
Epoch: 5603 cost= 0.035012450
Epoch: 5604 cost= 0.032398339
Epoch: 5605 cost= 0.033406772
Epoch: 5606 cost= 0.035144772
Epoch: 5607 cost= 0.034138173
Epoch: 5608 cost= 0.034623634
Epoch: 5609 cost= 0.034000792
Epoch: 5610 cost= 0.036353674
Epoch: 5611 cost= 0.036107775
Epoch: 5612 cost= 0.035787195
Epoch: 5613 cost= 0.034780990
Epoch: 5614 cost= 0.032731369
Epoch: 5615 cost= 0.035908565
Epoch: 5616 cost= 0.033769563
Epoch: 5617 cost= 0.034117986
Epoch: 5618 cost= 0.035641622
Epoch: 5619 cost= 0.032801379
Epoch: 5620 cost= 0.034182876
Epoch: 5621 cost= 0.033032425
Epoch: 5622 cost= 0.033082150
```

```
Epoch: 5623 cost= 0.033283696
Epoch: 5624 cost= 0.033398453
Epoch: 5625 cost= 0.034679558
Epoch: 5626 cost= 0.033837385
Epoch: 5627 cost= 0.034926023
Epoch: 5628 cost= 0.033785567
Epoch: 5629 cost= 0.035860687
Epoch: 5630 cost= 0.034924608
Epoch: 5631 cost= 0.033148825
Epoch: 5632 cost= 0.033831917
Epoch: 5633 cost= 0.033987615
Epoch: 5634 cost= 0.033845302
Epoch: 5635 cost= 0.034130055
Epoch: 5636 cost= 0.033456407
Epoch: 5637 cost= 0.035657313
Epoch: 5638 cost= 0.035088629
Epoch: 5639 cost= 0.034370121
Epoch: 5640 cost= 0.035522956
Epoch: 5641 cost= 0.034256648
Epoch: 5642 cost= 0.033599485
Epoch: 5643 cost= 0.033331595
Epoch: 5644 cost= 0.034374077
Epoch: 5645 cost= 0.033053845
Epoch: 5646 cost= 0.036352050
```

```
Epoch: 5647 cost= 0.033155501
Epoch: 5648 cost= 0.034237556
Epoch: 5649 cost= 0.033982597
Epoch: 5650 cost= 0.034957811
Epoch: 5651 cost= 0.033496063
Epoch: 5652 cost= 0.033850338
Epoch: 5653 cost= 0.033159114
Epoch: 5654 cost= 0.033838108
Epoch: 5655 cost= 0.033895064
Epoch: 5656 cost= 0.034450915
Epoch: 5657 cost= 0.032409329
Epoch: 5658 cost= 0.033290900
Epoch: 5659 cost= 0.035026968
Epoch: 5660 cost= 0.033711389
Epoch: 5661 cost= 0.033490337
Epoch: 5662 cost= 0.035861336
Epoch: 5663 cost= 0.034147792
Epoch: 5664 cost= 0.034480426
Epoch: 5665 cost= 0.033919316
Epoch: 5666 cost= 0.033177651
Epoch: 5667 cost= 0.035798911
Epoch: 5668 cost= 0.034045141
Epoch: 5669 cost= 0.033801820
Epoch: 5670 cost= 0.033175319
```

```
Epoch: 5671 cost= 0.034078531
Epoch: 5672 cost= 0.033590734
Epoch: 5673 cost= 0.033925194
Epoch: 5674 cost= 0.033665322
Epoch: 5675 cost= 0.033991102
Epoch: 5676 cost= 0.032412432
Epoch: 5677 cost= 0.034136053
Epoch: 5678 cost= 0.034038000
Epoch: 5679 cost= 0.035066936
Epoch: 5680 cost= 0.034597132
Epoch: 5681 cost= 0.034415439
Epoch: 5682 cost= 0.032674350
Epoch: 5683 cost= 0.034510501
Epoch: 5684 cost= 0.032968447
Epoch: 5685 cost= 0.033548675
Epoch: 5686 cost= 0.034284815
Epoch: 5687 cost= 0.034071621
Epoch: 5688 cost= 0.034101166
Epoch: 5689 cost= 0.033323467
Epoch: 5690 cost= 0.033690561
Epoch: 5691 cost= 0.035341769
Epoch: 5692 cost= 0.034863986
Epoch: 5693 cost= 0.033981249
Epoch: 5694 cost= 0.035218265
```

```
Epoch: 5695 cost= 0.034840439
Epoch: 5696 cost= 0.034646381
Epoch: 5697 cost= 0.033887256
Epoch: 5698 cost= 0.032309201
Epoch: 5699 cost= 0.034242582
Epoch: 5700 cost= 0.034863546
Epoch: 5701 cost= 0.032533877
Epoch: 5702 cost= 0.031712081
Epoch: 5703 cost= 0.034960255
Epoch: 5704 cost= 0.032255173
Epoch: 5705 cost= 0.034378573
Epoch: 5706 cost= 0.032813005
Epoch: 5707 cost= 0.035525519
Epoch: 5708 cost= 0.035885841
Epoch: 5709 cost= 0.034263626
Epoch: 5710 cost= 0.033682350
Epoch: 5711 cost= 0.033243813
Epoch: 5712 cost= 0.035463616
Epoch: 5713 cost= 0.035677798
Epoch: 5714 cost= 0.035144158
Epoch: 5715 cost= 0.034289461
Epoch: 5716 cost= 0.034256045
Epoch: 5717 cost= 0.032993969
Epoch: 5718 cost= 0.034396026
```

```
Epoch: 5719 cost= 0.034597747
Epoch: 5720 cost= 0.034102246
Epoch: 5721 cost= 0.033973712
Epoch: 5722 cost= 0.034705192
Epoch: 5723 cost= 0.035465110
Epoch: 5724 cost= 0.034529537
Epoch: 5725 cost= 0.033752393
Epoch: 5726 cost= 0.033716943
Epoch: 5727 cost= 0.034297165
Epoch: 5728 cost= 0.035035040
Epoch: 5729 cost= 0.032307375
Epoch: 5730 cost= 0.034764972
Epoch: 5731 cost= 0.034469549
Epoch: 5732 cost= 0.031356145
Epoch: 5733 cost= 0.033195890
Epoch: 5734 cost= 0.034688383
Epoch: 5735 cost= 0.032555003
Epoch: 5736 cost= 0.033476595
Epoch: 5737 cost= 0.033027727
Epoch: 5738 cost= 0.035912503
Epoch: 5739 cost= 0.036199823
Epoch: 5740 cost= 0.034634069
Epoch: 5741 cost= 0.033358764
Epoch: 5742 cost= 0.034354001
```

```
Epoch: 5743 cost= 0.033441786
Epoch: 5744 cost= 0.033312228
Epoch: 5745 cost= 0.035602223
Epoch: 5746 cost= 0.034042656
Epoch: 5747 cost= 0.034322526
Epoch: 5748 cost= 0.033592902
Epoch: 5749 cost= 0.034061372
Epoch: 5750 cost= 0.034300856
Epoch: 5751 cost= 0.034269594
Epoch: 5752 cost= 0.035333458
Epoch: 5753 cost= 0.035700459
Epoch: 5754 cost= 0.033074096
Epoch: 5755 cost= 0.034399260
Epoch: 5756 cost= 0.034677707
Epoch: 5757 cost= 0.032810263
Epoch: 5758 cost= 0.033863332
Epoch: 5759 cost= 0.034351025
Epoch: 5760 cost= 0.034347087
Epoch: 5761 cost= 0.032375213
Epoch: 5762 cost= 0.033784416
Epoch: 5763 cost= 0.033810325
Epoch: 5764 cost= 0.036686935
Epoch: 5765 cost= 0.034747954
Epoch: 5766 cost= 0.034739755
```

```
Epoch: 5767 cost= 0.035374224
Epoch: 5768 cost= 0.033145368
Epoch: 5769 cost= 0.035222180
Epoch: 5770 cost= 0.033985280
Epoch: 5771 cost= 0.034526534
Epoch: 5772 cost= 0.035492685
Epoch: 5773 cost= 0.034910817
Epoch: 5774 cost= 0.035182159
Epoch: 5775 cost= 0.036132276
Epoch: 5776 cost= 0.034348316
Epoch: 5777 cost= 0.033528589
Epoch: 5778 cost= 0.033948846
Epoch: 5779 cost= 0.034347523
Epoch: 5780 cost= 0.035107043
Epoch: 5781 cost= 0.031970657
Epoch: 5782 cost= 0.036721498
Epoch: 5783 cost= 0.033546370
Epoch: 5784 cost= 0.032637388
Epoch: 5785 cost= 0.033638690
Epoch: 5786 cost= 0.034366116
Epoch: 5787 cost= 0.034619782
Epoch: 5788 cost= 0.035868373
Epoch: 5789 cost= 0.035708670
Epoch: 5790 cost= 0.035782382
```

```
Epoch: 5791 cost= 0.033707291
Epoch: 5792 cost= 0.036841668
Epoch: 5793 cost= 0.033962660
Epoch: 5794 cost= 0.032803219
Epoch: 5795 cost= 0.035181902
Epoch: 5796 cost= 0.033808231
Epoch: 5797 cost= 0.033873849
Epoch: 5798 cost= 0.034347937
Epoch: 5799 cost= 0.035853509
Epoch: 5800 cost= 0.035767380
Epoch: 5801 cost= 0.032751005
Epoch: 5802 cost= 0.033740159
Epoch: 5803 cost= 0.034128964
Epoch: 5804 cost= 0.035654556
Epoch: 5805 cost= 0.033134721
Epoch: 5806 cost= 0.035808608
Epoch: 5807 cost= 0.033178460
Epoch: 5808 cost= 0.035227597
Epoch: 5809 cost= 0.031391289
Epoch: 5810 cost= 0.035588514
Epoch: 5811 cost= 0.033469312
Epoch: 5812 cost= 0.031994656
Epoch: 5813 cost= 0.033426709
Epoch: 5814 cost= 0.034662351
```

```
Epoch: 5815 cost= 0.033948060
Epoch: 5816 cost= 0.033696201
Epoch: 5817 cost= 0.032959849
Epoch: 5818 cost= 0.035797641
Epoch: 5819 cost= 0.034590974
Epoch: 5820 cost= 0.032917865
Epoch: 5821 cost= 0.035297774
Epoch: 5822 cost= 0.033664260
Epoch: 5823 cost= 0.034385543
Epoch: 5824 cost= 0.033134129
Epoch: 5825 cost= 0.032177508
Epoch: 5826 cost= 0.035284132
Epoch: 5827 cost= 0.035189737
Epoch: 5828 cost= 0.033886354
Epoch: 5829 cost= 0.036081556
Epoch: 5830 cost= 0.035673726
Epoch: 5831 cost= 0.032764196
Epoch: 5832 cost= 0.036403358
Epoch: 5833 cost= 0.034256749
Epoch: 5834 cost= 0.034495190
Epoch: 5835 cost= 0.033722054
Epoch: 5836 cost= 0.033260856
Epoch: 5837 cost= 0.034246869
Epoch: 5838 cost= 0.035635244
```

```
Epoch: 5839 cost= 0.032413479
Epoch: 5840 cost= 0.033736590
Epoch: 5841 cost= 0.032785039
Epoch: 5842 cost= 0.032617319
Epoch: 5843 cost= 0.035101943
Epoch: 5844 cost= 0.034741953
Epoch: 5845 cost= 0.034144405
Epoch: 5846 cost= 0.033509433
Epoch: 5847 cost= 0.033306222
Epoch: 5848 cost= 0.033348534
Epoch: 5849 cost= 0.033910468
Epoch: 5850 cost= 0.034740444
Epoch: 5851 cost= 0.034031630
Epoch: 5852 cost= 0.037110291
Epoch: 5853 cost= 0.033880413
Epoch: 5854 cost= 0.033272348
Epoch: 5855 cost= 0.033327848
Epoch: 5856 cost= 0.035671055
Epoch: 5857 cost= 0.035110861
Epoch: 5858 cost= 0.034696490
Epoch: 5859 cost= 0.034360401
Epoch: 5860 cost= 0.035144314
Epoch: 5861 cost= 0.032927461
Epoch: 5862 cost= 0.035831846
```

```
Epoch: 5863 cost= 0.034630042
Epoch: 5864 cost= 0.034993935
Epoch: 5865 cost= 0.035289619
Epoch: 5866 cost= 0.032405555
Epoch: 5867 cost= 0.033528261
Epoch: 5868 cost= 0.034419484
Epoch: 5869 cost= 0.031488799
Epoch: 5870 cost= 0.033717696
Epoch: 5871 cost= 0.033866104
Epoch: 5872 cost= 0.033602670
Epoch: 5873 cost= 0.034860495
Epoch: 5874 cost= 0.033957589
Epoch: 5875 cost= 0.034684032
Epoch: 5876 cost= 0.034817137
Epoch: 5877 cost= 0.032435920
Epoch: 5878 cost= 0.035734728
Epoch: 5879 cost= 0.033297427
Epoch: 5880 cost= 0.034866203
Epoch: 5881 cost= 0.033171266
Epoch: 5882 cost= 0.032526925
Epoch: 5883 cost= 0.032982849
Epoch: 5884 cost= 0.032952890
Epoch: 5885 cost= 0.035177402
Epoch: 5886 cost= 0.036547691
```

```
Epoch: 5887 cost= 0.033563942
Epoch: 5888 cost= 0.035497971
Epoch: 5889 cost= 0.033067517
Epoch: 5890 cost= 0.034959376
Epoch: 5891 cost= 0.034859233
Epoch: 5892 cost= 0.033740371
Epoch: 5893 cost= 0.035586704
Epoch: 5894 cost= 0.035275303
Epoch: 5895 cost= 0.034552477
Epoch: 5896 cost= 0.035832003
Epoch: 5897 cost= 0.032950666
Epoch: 5898 cost= 0.032757938
Epoch: 5899 cost= 0.033185862
Epoch: 5900 cost= 0.032786619
Epoch: 5901 cost= 0.034261528
Epoch: 5902 cost= 0.032080483
Epoch: 5903 cost= 0.033192184
Epoch: 5904 cost= 0.036904592
Epoch: 5905 cost= 0.035328932
Epoch: 5906 cost= 0.034113433
Epoch: 5907 cost= 0.033433221
Epoch: 5908 cost= 0.033556864
Epoch: 5909 cost= 0.034043800
Epoch: 5910 cost= 0.032558676
```

```
Epoch: 5911 cost= 0.033922359
Epoch: 5912 cost= 0.033259645
Epoch: 5913 cost= 0.034190226
Epoch: 5914 cost= 0.033674221
Epoch: 5915 cost= 0.031966422
Epoch: 5916 cost= 0.034251310
Epoch: 5917 cost= 0.034462664
Epoch: 5918 cost= 0.034084111
Epoch: 5919 cost= 0.033916380
Epoch: 5920 cost= 0.034894630
Epoch: 5921 cost= 0.034214731
Epoch: 5922 cost= 0.033578467
Epoch: 5923 cost= 0.034016248
Epoch: 5924 cost= 0.032922670
Epoch: 5925 cost= 0.034337964
Epoch: 5926 cost= 0.033710670
Epoch: 5927 cost= 0.033410739
Epoch: 5928 cost= 0.033035114
Epoch: 5929 cost= 0.033348717
Epoch: 5930 cost= 0.034050759
Epoch: 5931 cost= 0.033790603
Epoch: 5932 cost= 0.033724323
Epoch: 5933 cost= 0.033377457
Epoch: 5934 cost= 0.034229968
```

```
Epoch: 5935 cost= 0.032410942
Epoch: 5936 cost= 0.033366263
Epoch: 5937 cost= 0.035470255
Epoch: 5938 cost= 0.033961434
Epoch: 5939 cost= 0.035354968
Epoch: 5940 cost= 0.034242105
Epoch: 5941 cost= 0.034425210
Epoch: 5942 cost= 0.034691133
Epoch: 5943 cost= 0.033675231
Epoch: 5944 cost= 0.033759359
Epoch: 5945 cost= 0.034342960
Epoch: 5946 cost= 0.036670782
Epoch: 5947 cost= 0.033878237
Epoch: 5948 cost= 0.033096693
Epoch: 5949 cost= 0.035298795
Epoch: 5950 cost= 0.034616835
Epoch: 5951 cost= 0.036054522
Epoch: 5952 cost= 0.033768296
Epoch: 5953 cost= 0.035480671
Epoch: 5954 cost= 0.033136237
Epoch: 5955 cost= 0.033820953
Epoch: 5956 cost= 0.034700375
Epoch: 5957 cost= 0.035110142
Epoch: 5958 cost= 0.032068487
```

```
Epoch: 5959 cost= 0.033813566
Epoch: 5960 cost= 0.035071142
Epoch: 5961 cost= 0.035782631
Epoch: 5962 cost= 0.035739940
Epoch: 5963 cost= 0.036657695
Epoch: 5964 cost= 0.033930995
Epoch: 5965 cost= 0.033966593
Epoch: 5966 cost= 0.035452530
Epoch: 5967 cost= 0.036360141
Epoch: 5968 cost= 0.032873254
Epoch: 5969 cost= 0.033931576
Epoch: 5970 cost= 0.032997437
Epoch: 5971 cost= 0.033613268
Epoch: 5972 cost= 0.034012605
Epoch: 5973 cost= 0.032873075
Epoch: 5974 cost= 0.034789991
Epoch: 5975 cost= 0.032424424
Epoch: 5976 cost= 0.033363760
Epoch: 5977 cost= 0.033966530
Epoch: 5978 cost= 0.036041863
Epoch: 5979 cost= 0.035146136
Epoch: 5980 cost= 0.035822015
Epoch: 5981 cost= 0.035072725
Epoch: 5982 cost= 0.035756275
```

```
Epoch: 5983 cost= 0.034756109
Epoch: 5984 cost= 0.035692494
Epoch: 5985 cost= 0.035127427
Epoch: 5986 cost= 0.035752136
Epoch: 5987 cost= 0.034315761
Epoch: 5988 cost= 0.034951448
Epoch: 5989 cost= 0.033953238
Epoch: 5990 cost= 0.034313872
Epoch: 5991 cost= 0.034271665
Epoch: 5992 cost= 0.033916924
Epoch: 5993 cost= 0.034728874
Epoch: 5994 cost= 0.033259150
Epoch: 5995 cost= 0.033633932
Epoch: 5996 cost= 0.033438832
Epoch: 5997 cost= 0.032647520
Epoch: 5998 cost= 0.034338277
Epoch: 5999 cost= 0.033245273
Epoch: 6000 cost= 0.034662377
Epoch: 6001 cost= 0.032413170
Epoch: 6002 cost= 0.033259366
Epoch: 6003 cost= 0.034409568
Epoch: 6004 cost= 0.033803992
Epoch: 6005 cost= 0.033655081
Epoch: 6006 cost= 0.032241620
```

```
Epoch: 6007 cost= 0.034069821
Epoch: 6008 cost= 0.033094037
Epoch: 6009 cost= 0.033769518
Epoch: 6010 cost= 0.034977473
Epoch: 6011 cost= 0.035054751
Epoch: 6012 cost= 0.033823274
Epoch: 6013 cost= 0.034763381
Epoch: 6014 cost= 0.033179812
Epoch: 6015 cost= 0.034172196
Epoch: 6016 cost= 0.034035809
Epoch: 6017 cost= 0.033993240
Epoch: 6018 cost= 0.034966420
Epoch: 6019 cost= 0.033797216
Epoch: 6020 cost= 0.034362022
Epoch: 6021 cost= 0.033498041
Epoch: 6022 cost= 0.032722190
Epoch: 6023 cost= 0.036035553
Epoch: 6024 cost= 0.032972727
Epoch: 6025 cost= 0.034638483
Epoch: 6026 cost= 0.034551196
Epoch: 6027 cost= 0.032648720
Epoch: 6028 cost= 0.033795040
Epoch: 6029 cost= 0.033145599
Epoch: 6030 cost= 0.032707278
```

```
Epoch: 6031 cost= 0.032771174
Epoch: 6032 cost= 0.033081088
Epoch: 6033 cost= 0.035000753
Epoch: 6034 cost= 0.034521487
Epoch: 6035 cost= 0.036659468
Epoch: 6036 cost= 0.031038191
Epoch: 6037 cost= 0.033257138
Epoch: 6038 cost= 0.035798911
Epoch: 6039 cost= 0.032839932
Epoch: 6040 cost= 0.034762498
Epoch: 6041 cost= 0.031804543
Epoch: 6042 cost= 0.034898832
Epoch: 6043 cost= 0.033391688
Epoch: 6044 cost= 0.034294717
Epoch: 6045 cost= 0.033231948
Epoch: 6046 cost= 0.033556923
Epoch: 6047 cost= 0.033227060
Epoch: 6048 cost= 0.034679506
Epoch: 6049 cost= 0.035042305
Epoch: 6050 cost= 0.033233281
Epoch: 6051 cost= 0.033213314
Epoch: 6052 cost= 0.033163335
Epoch: 6053 cost= 0.034350719
Epoch: 6054 cost= 0.034731027
```

```
Epoch: 6055 cost= 0.035312641
Epoch: 6056 cost= 0.033144776
Epoch: 6057 cost= 0.032226786
Epoch: 6058 cost= 0.035999287
Epoch: 6059 cost= 0.033094157
Epoch: 6060 cost= 0.034139235
Epoch: 6061 cost= 0.032511208
Epoch: 6062 cost= 0.034563653
Epoch: 6063 cost= 0.035052355
Epoch: 6064 cost= 0.033254977
Epoch: 6065 cost= 0.034101944
Epoch: 6066 cost= 0.033641122
Epoch: 6067 cost= 0.032441683
Epoch: 6068 cost= 0.033633266
Epoch: 6069 cost= 0.033621173
Epoch: 6070 cost= 0.035495926
Epoch: 6071 cost= 0.033856872
Epoch: 6072 cost= 0.035422608
Epoch: 6073 cost= 0.032973159
Epoch: 6074 cost= 0.032912433
Epoch: 6075 cost= 0.034700874
Epoch: 6076 cost= 0.033913549
Epoch: 6077 cost= 0.034424331
Epoch: 6078 cost= 0.033668220
```

```
Epoch: 6079 cost= 0.033658504
Epoch: 6080 cost= 0.035406746
Epoch: 6081 cost= 0.034421995
Epoch: 6082 cost= 0.034555264
Epoch: 6083 cost= 0.034785848
Epoch: 6084 cost= 0.031222377
Epoch: 6085 cost= 0.034481965
Epoch: 6086 cost= 0.035756007
Epoch: 6087 cost= 0.033338901
Epoch: 6088 cost= 0.033461031
Epoch: 6089 cost= 0.034177657
Epoch: 6090 cost= 0.034746964
Epoch: 6091 cost= 0.034374844
Epoch: 6092 cost= 0.033887688
Epoch: 6093 cost= 0.034681331
Epoch: 6094 cost= 0.033503935
Epoch: 6095 cost= 0.033031039
Epoch: 6096 cost= 0.032239523
Epoch: 6097 cost= 0.033984207
Epoch: 6098 cost= 0.033827819
Epoch: 6099 cost= 0.034492206
Epoch: 6100 cost= 0.034350220
Epoch: 6101 cost= 0.033819400
Epoch: 6102 cost= 0.035168327
```

```
Epoch: 6103 cost= 0.034470625
Epoch: 6104 cost= 0.034821466
Epoch: 6105 cost= 0.033491738
Epoch: 6106 cost= 0.034648504
Epoch: 6107 cost= 0.034155626
Epoch: 6108 cost= 0.032270078
Epoch: 6109 cost= 0.034294125
Epoch: 6110 cost= 0.034813941
Epoch: 6111 cost= 0.034253504
Epoch: 6112 cost= 0.034333378
Epoch: 6113 cost= 0.034796599
Epoch: 6114 cost= 0.034131307
Epoch: 6115 cost= 0.032654840
Epoch: 6116 cost= 0.035396125
Epoch: 6117 cost= 0.034579616
Epoch: 6118 cost= 0.033419278
Epoch: 6119 cost= 0.031870872
Epoch: 6120 cost= 0.032731999
Epoch: 6121 cost= 0.036607914
Epoch: 6122 cost= 0.034527805
Epoch: 6123 cost= 0.033417236
Epoch: 6124 cost= 0.032752749
Epoch: 6125 cost= 0.034597192
Epoch: 6126 cost= 0.034263566
```

```
Epoch: 6127 cost= 0.032693837
Epoch: 6128 cost= 0.036797374
Epoch: 6129 cost= 0.034328353
Epoch: 6130 cost= 0.031733703
Epoch: 6131 cost= 0.033993758
Epoch: 6132 cost= 0.036551416
Epoch: 6133 cost= 0.032954447
Epoch: 6134 cost= 0.033672493
Epoch: 6135 cost= 0.033721905
Epoch: 6136 cost= 0.033817664
Epoch: 6137 cost= 0.033520240
Epoch: 6138 cost= 0.034721673
Epoch: 6139 cost= 0.034343574
Epoch: 6140 cost= 0.035971478
Epoch: 6141 cost= 0.031491254
Epoch: 6142 cost= 0.036649700
Epoch: 6143 cost= 0.034381155
Epoch: 6144 cost= 0.035295665
Epoch: 6145 cost= 0.034240428
Epoch: 6146 cost= 0.034647193
Epoch: 6147 cost= 0.033841573
Epoch: 6148 cost= 0.034270529
Epoch: 6149 cost= 0.034120988
Epoch: 6150 cost= 0.036616854
```

```
Epoch: 6151 cost= 0.034089927
Epoch: 6152 cost= 0.032602672
Epoch: 6153 cost= 0.034932747
Epoch: 6154 cost= 0.033619057
Epoch: 6155 cost= 0.033700481
Epoch: 6156 cost= 0.033296965
Epoch: 6157 cost= 0.034002826
Epoch: 6158 cost= 0.034376524
Epoch: 6159 cost= 0.036576632
Epoch: 6160 cost= 0.031011209
Epoch: 6161 cost= 0.033707540
Epoch: 6162 cost= 0.033419907
Epoch: 6163 cost= 0.032034289
Epoch: 6164 cost= 0.032908395
Epoch: 6165 cost= 0.033406924
Epoch: 6166 cost= 0.034592506
Epoch: 6167 cost= 0.034546100
Epoch: 6168 cost= 0.035129823
Epoch: 6169 cost= 0.034760568
Epoch: 6170 cost= 0.035883270
Epoch: 6171 cost= 0.033616770
Epoch: 6172 cost= 0.036069315
Epoch: 6173 cost= 0.034950506
Epoch: 6174 cost= 0.033177167
```

```
Epoch: 6175 cost= 0.032729089
Epoch: 6176 cost= 0.032245312
Epoch: 6177 cost= 0.035136271
Epoch: 6178 cost= 0.035573080
Epoch: 6179 cost= 0.033236556
Epoch: 6180 cost= 0.032657295
Epoch: 6181 cost= 0.036120769
Epoch: 6182 cost= 0.036774810
Epoch: 6183 cost= 0.035008807
Epoch: 6184 cost= 0.035554580
Epoch: 6185 cost= 0.035561629
Epoch: 6186 cost= 0.034968153
Epoch: 6187 cost= 0.034975093
Epoch: 6188 cost= 0.034789719
Epoch: 6189 cost= 0.033493970
Epoch: 6190 cost= 0.032854181
Epoch: 6191 cost= 0.034176283
Epoch: 6192 cost= 0.033061188
Epoch: 6193 cost= 0.033730246
Epoch: 6194 cost= 0.033865616
Epoch: 6195 cost= 0.033918437
Epoch: 6196 cost= 0.034816995
Epoch: 6197 cost= 0.033898994
Epoch: 6198 cost= 0.035181180
```

```
Epoch: 6199 cost= 0.034674145
Epoch: 6200 cost= 0.034364730
Epoch: 6201 cost= 0.035608485
Epoch: 6202 cost= 0.033456329
Epoch: 6203 cost= 0.033875581
Epoch: 6204 cost= 0.035085861
Epoch: 6205 cost= 0.034092933
Epoch: 6206 cost= 0.031313293
Epoch: 6207 cost= 0.033058513
Epoch: 6208 cost= 0.032369137
Epoch: 6209 cost= 0.035138097
Epoch: 6210 cost= 0.034870829
Epoch: 6211 cost= 0.035174325
Epoch: 6212 cost= 0.034475647
Epoch: 6213 cost= 0.036234025
Epoch: 6214 cost= 0.034864377
Epoch: 6215 cost= 0.034806747
Epoch: 6216 cost= 0.032776941
Epoch: 6217 cost= 0.035875283
Epoch: 6218 cost= 0.033081580
Epoch: 6219 cost= 0.034799360
Epoch: 6220 cost= 0.032398824
Epoch: 6221 cost= 0.034449972
Epoch: 6222 cost= 0.032770883
```

```
Epoch: 6223 cost= 0.034683026
Epoch: 6224 cost= 0.034146830
Epoch: 6225 cost= 0.033188757
Epoch: 6226 cost= 0.035792548
Epoch: 6227 cost= 0.032776196
Epoch: 6228 cost= 0.032473885
Epoch: 6229 cost= 0.034336954
Epoch: 6230 cost= 0.034658793
Epoch: 6231 cost= 0.033655390
Epoch: 6232 cost= 0.035808772
Epoch: 6233 cost= 0.033845652
Epoch: 6234 cost= 0.033669401
Epoch: 6235 cost= 0.034052398
Epoch: 6236 cost= 0.034088008
Epoch: 6237 cost= 0.034074210
Epoch: 6238 cost= 0.032597952
Epoch: 6239 cost= 0.032741223
Epoch: 6240 cost= 0.034837298
Epoch: 6241 cost= 0.034365650
Epoch: 6242 cost= 0.035643596
Epoch: 6243 cost= 0.033802904
Epoch: 6244 cost= 0.035473064
Epoch: 6245 cost= 0.032281928
Epoch: 6246 cost= 0.034831095
```

```
Epoch: 6247 cost= 0.034506395
Epoch: 6248 cost= 0.036222123
Epoch: 6249 cost= 0.035742193
Epoch: 6250 cost= 0.033518162
Epoch: 6251 cost= 0.034380279
Epoch: 6252 cost= 0.032343689
Epoch: 6253 cost= 0.034923375
Epoch: 6254 cost= 0.032719828
Epoch: 6255 cost= 0.033867333
Epoch: 6256 cost= 0.033684567
Epoch: 6257 cost= 0.031713951
Epoch: 6258 cost= 0.036291905
Epoch: 6259 cost= 0.033855580
Epoch: 6260 cost= 0.031226700
Epoch: 6261 cost= 0.034534428
Epoch: 6262 cost= 0.031150404
Epoch: 6263 cost= 0.033849493
Epoch: 6264 cost= 0.033946313
Epoch: 6265 cost= 0.033199664
Epoch: 6266 cost= 0.034678869
Epoch: 6267 cost= 0.033598110
Epoch: 6268 cost= 0.035207111
Epoch: 6269 cost= 0.033526938
Epoch: 6270 cost= 0.033976581
```

```
Epoch: 6271 cost= 0.035965379
Epoch: 6272 cost= 0.034665611
Epoch: 6273 cost= 0.035325561
Epoch: 6274 cost= 0.034597687
Epoch: 6275 cost= 0.033279020
Epoch: 6276 cost= 0.034104191
Epoch: 6277 cost= 0.034195039
Epoch: 6278 cost= 0.034111608
Epoch: 6279 cost= 0.034594662
Epoch: 6280 cost= 0.033353738
Epoch: 6281 cost= 0.035657659
Epoch: 6282 cost= 0.033805415
Epoch: 6283 cost= 0.036038175
Epoch: 6284 cost= 0.034013160
Epoch: 6285 cost= 0.035852276
Epoch: 6286 cost= 0.033808958
Epoch: 6287 cost= 0.034873758
Epoch: 6288 cost= 0.034301769
Epoch: 6289 cost= 0.032192804
Epoch: 6290 cost= 0.034298223
Epoch: 6291 cost= 0.035340756
Epoch: 6292 cost= 0.032578655
Epoch: 6293 cost= 0.034906119
Epoch: 6294 cost= 0.032543499
```

```
Epoch: 6295 cost= 0.031922199
Epoch: 6296 cost= 0.036465008
Epoch: 6297 cost= 0.035736989
Epoch: 6298 cost= 0.035469919
Epoch: 6299 cost= 0.035867885
Epoch: 6300 cost= 0.035396144
Epoch: 6301 cost= 0.035322756
Epoch: 6302 cost= 0.033643369
Epoch: 6303 cost= 0.034642741
Epoch: 6304 cost= 0.035079598
Epoch: 6305 cost= 0.036388580
Epoch: 6306 cost= 0.036629714
Epoch: 6307 cost= 0.033857495
Epoch: 6308 cost= 0.032589927
Epoch: 6309 cost= 0.032896619
Epoch: 6310 cost= 0.033443879
Epoch: 6311 cost= 0.035074327
Epoch: 6312 cost= 0.034059469
Epoch: 6313 cost= 0.035635669
Epoch: 6314 cost= 0.033972282
Epoch: 6315 cost= 0.032508027
Epoch: 6316 cost= 0.032377508
Epoch: 6317 cost= 0.032741550
Epoch: 6318 cost= 0.034619834
```

```
Epoch: 6319 cost= 0.034394328
Epoch: 6320 cost= 0.034078125
Epoch: 6321 cost= 0.033469610
Epoch: 6322 cost= 0.034421455
Epoch: 6323 cost= 0.032802757
Epoch: 6324 cost= 0.033418566
Epoch: 6325 cost= 0.033013459
Epoch: 6326 cost= 0.035573117
Epoch: 6327 cost= 0.032203820
Epoch: 6328 cost= 0.033865266
Epoch: 6329 cost= 0.035012551
Epoch: 6330 cost= 0.034868278
Epoch: 6331 cost= 0.033116341
Epoch: 6332 cost= 0.035631463
Epoch: 6333 cost= 0.034409784
Epoch: 6334 cost= 0.034449559
Epoch: 6335 cost= 0.033753954
Epoch: 6336 cost= 0.032397792
Epoch: 6337 cost= 0.035521995
Epoch: 6338 cost= 0.034613449
Epoch: 6339 cost= 0.033330329
Epoch: 6340 cost= 0.033539884
Epoch: 6341 cost= 0.034027934
Epoch: 6342 cost= 0.035504911
```

```
Epoch: 6343 cost= 0.035126429
Epoch: 6344 cost= 0.031378455
Epoch: 6345 cost= 0.034024775
Epoch: 6346 cost= 0.033632617
Epoch: 6347 cost= 0.031445332
Epoch: 6348 cost= 0.034236148
Epoch: 6349 cost= 0.035323635
Epoch: 6350 cost= 0.036487564
Epoch: 6351 cost= 0.035608951
Epoch: 6352 cost= 0.034749083
Epoch: 6353 cost= 0.032890044
Epoch: 6354 cost= 0.036724448
Epoch: 6355 cost= 0.034160379
Epoch: 6356 cost= 0.034282520
Epoch: 6357 cost= 0.033351969
Epoch: 6358 cost= 0.034599006
Epoch: 6359 cost= 0.032182261
Epoch: 6360 cost= 0.033107039
Epoch: 6361 cost= 0.032600082
Epoch: 6362 cost= 0.031771578
Epoch: 6363 cost= 0.033730831
Epoch: 6364 cost= 0.034283936
Epoch: 6365 cost= 0.034069363
Epoch: 6366 cost= 0.033404145
```

```
Epoch: 6367 cost= 0.034065910
Epoch: 6368 cost= 0.032808695
Epoch: 6369 cost= 0.035840850
Epoch: 6370 cost= 0.034615118
Epoch: 6371 cost= 0.036228411
Epoch: 6372 cost= 0.033059355
Epoch: 6373 cost= 0.035677355
Epoch: 6374 cost= 0.035330966
Epoch: 6375 cost= 0.032291032
Epoch: 6376 cost= 0.034896392
Epoch: 6377 cost= 0.036688775
Epoch: 6378 cost= 0.034571841
Epoch: 6379 cost= 0.034806121
Epoch: 6380 cost= 0.034710355
Epoch: 6381 cost= 0.035658147
Epoch: 6382 cost= 0.035036378
Epoch: 6383 cost= 0.033769488
Epoch: 6384 cost= 0.033961810
Epoch: 6385 cost= 0.035044491
Epoch: 6386 cost= 0.034766294
Epoch: 6387 cost= 0.033452895
Epoch: 6388 cost= 0.036428954
Epoch: 6389 cost= 0.033542410
Epoch: 6390 cost= 0.035923459
```

```
Epoch: 6391 cost= 0.034764647
Epoch: 6392 cost= 0.035064664
Epoch: 6393 cost= 0.032676008
Epoch: 6394 cost= 0.033665694
Epoch: 6395 cost= 0.032378264
Epoch: 6396 cost= 0.033054959
Epoch: 6397 cost= 0.033893112
Epoch: 6398 cost= 0.033767100
Epoch: 6399 cost= 0.033402376
Epoch: 6400 cost= 0.035601471
Epoch: 6401 cost= 0.033528998
Epoch: 6402 cost= 0.034413766
Epoch: 6403 cost= 0.035624001
Epoch: 6404 cost= 0.033899385
Epoch: 6405 cost= 0.034136388
Epoch: 6406 cost= 0.034728736
Epoch: 6407 cost= 0.034526374
Epoch: 6408 cost= 0.033525288
Epoch: 6409 cost= 0.035396606
Epoch: 6410 cost= 0.034382522
Epoch: 6411 cost= 0.034486558
Epoch: 6412 cost= 0.034744218
Epoch: 6413 cost= 0.033803437
Epoch: 6414 cost= 0.031941652
```

```
Epoch: 6415 cost= 0.034447063
Epoch: 6416 cost= 0.033604126
Epoch: 6417 cost= 0.035025846
Epoch: 6418 cost= 0.033638839
Epoch: 6419 cost= 0.032969669
Epoch: 6420 cost= 0.033517297
Epoch: 6421 cost= 0.034962326
Epoch: 6422 cost= 0.032748640
Epoch: 6423 cost= 0.035883632
Epoch: 6424 cost= 0.035392597
Epoch: 6425 cost= 0.034009364
Epoch: 6426 cost= 0.034863561
Epoch: 6427 cost= 0.034266874
Epoch: 6428 cost= 0.034773536
Epoch: 6429 cost= 0.034163188
Epoch: 6430 cost= 0.035058167
Epoch: 6431 cost= 0.034058917
Epoch: 6432 cost= 0.033907861
Epoch: 6433 cost= 0.033600505
Epoch: 6434 cost= 0.033576269
Epoch: 6435 cost= 0.033750288
Epoch: 6436 cost= 0.034177985
Epoch: 6437 cost= 0.031438377
Epoch: 6438 cost= 0.036308508
```

```
Epoch: 6439 cost= 0.034330659
Epoch: 6440 cost= 0.035557315
Epoch: 6441 cost= 0.032724667
Epoch: 6442 cost= 0.032900289
Epoch: 6443 cost= 0.033148624
Epoch: 6444 cost= 0.032980185
Epoch: 6445 cost= 0.033871870
Epoch: 6446 cost= 0.034148086
Epoch: 6447 cost= 0.034338064
Epoch: 6448 cost= 0.034160044
Epoch: 6449 cost= 0.034902871
Epoch: 6450 cost= 0.033402979
Epoch: 6451 cost= 0.031983893
Epoch: 6452 cost= 0.033305265
Epoch: 6453 cost= 0.035801653
Epoch: 6454 cost= 0.034424763
Epoch: 6455 cost= 0.033823282
Epoch: 6456 cost= 0.034028135
Epoch: 6457 cost= 0.034643058
Epoch: 6458 cost= 0.035263814
Epoch: 6459 cost= 0.032677520
Epoch: 6460 cost= 0.036557101
Epoch: 6461 cost= 0.032382790
Epoch: 6462 cost= 0.034962419
```

```
Epoch: 6463 cost= 0.034464389
Epoch: 6464 cost= 0.034883346
Epoch: 6465 cost= 0.033710469
Epoch: 6466 cost= 0.034036208
Epoch: 6467 cost= 0.034749266
Epoch: 6468 cost= 0.033742670
Epoch: 6469 cost= 0.032942235
Epoch: 6470 cost= 0.033369817
Epoch: 6471 cost= 0.033577345
Epoch: 6472 cost= 0.033688921
Epoch: 6473 cost= 0.035418723
Epoch: 6474 cost= 0.033971567
Epoch: 6475 cost= 0.033197083
Epoch: 6476 cost= 0.032327645
Epoch: 6477 cost= 0.034676015
Epoch: 6478 cost= 0.035969079
Epoch: 6479 cost= 0.032153293
Epoch: 6480 cost= 0.036301859
Epoch: 6481 cost= 0.034040771
Epoch: 6482 cost= 0.035185043
Epoch: 6483 cost= 0.034707367
Epoch: 6484 cost= 0.033854503
Epoch: 6485 cost= 0.033744507
Epoch: 6486 cost= 0.032827429
```

```
Epoch: 6487 cost= 0.036074795
Epoch: 6488 cost= 0.032767277
Epoch: 6489 cost= 0.034336355
Epoch: 6490 cost= 0.033730891
Epoch: 6491 cost= 0.033468880
Epoch: 6492 cost= 0.034949936
Epoch: 6493 cost= 0.035634737
Epoch: 6494 cost= 0.034921803
Epoch: 6495 cost= 0.034566492
Epoch: 6496 cost= 0.032869481
Epoch: 6497 cost= 0.033659767
Epoch: 6498 cost= 0.035123155
Epoch: 6499 cost= 0.032894138
Epoch: 6500 cost= 0.035626337
Epoch: 6501 cost= 0.034247033
Epoch: 6502 cost= 0.032657478
Epoch: 6503 cost= 0.035305098
Epoch: 6504 cost= 0.035817131
Epoch: 6505 cost= 0.032901689
Epoch: 6506 cost= 0.032588258
Epoch: 6507 cost= 0.034510583
Epoch: 6508 cost= 0.033029713
Epoch: 6509 cost= 0.034103256
Epoch: 6510 cost= 0.033893157
```

```
Epoch: 6511 cost= 0.033442233
Epoch: 6512 cost= 0.034289375
Epoch: 6513 cost= 0.035173316
Epoch: 6514 cost= 0.033601191
Epoch: 6515 cost= 0.031593543
Epoch: 6516 cost= 0.034469750
Epoch: 6517 cost= 0.033762898
Epoch: 6518 cost= 0.033824537
Epoch: 6519 cost= 0.037052687
Epoch: 6520 cost= 0.034499232
Epoch: 6521 cost= 0.035192221
Epoch: 6522 cost= 0.034095149
Epoch: 6523 cost= 0.032535117
Epoch: 6524 cost= 0.034677826
Epoch: 6525 cost= 0.034144275
Epoch: 6526 cost= 0.034667790
Epoch: 6527 cost= 0.032176558
Epoch: 6528 cost= 0.034177594
Epoch: 6529 cost= 0.033921577
Epoch: 6530 cost= 0.032574981
Epoch: 6531 cost= 0.034297504
Epoch: 6532 cost= 0.035118043
Epoch: 6533 cost= 0.033694081
Epoch: 6534 cost= 0.031647187
```

```
Epoch: 6535 cost= 0.034467574
Epoch: 6536 cost= 0.034867954
Epoch: 6537 cost= 0.034541093
Epoch: 6538 cost= 0.032373391
Epoch: 6539 cost= 0.033769056
Epoch: 6540 cost= 0.035513263
Epoch: 6541 cost= 0.033373687
Epoch: 6542 cost= 0.035053678
Epoch: 6543 cost= 0.032718338
Epoch: 6544 cost= 0.034289233
Epoch: 6545 cost= 0.034177538
Epoch: 6546 cost= 0.033266753
Epoch: 6547 cost= 0.033252180
Epoch: 6548 cost= 0.033760544
Epoch: 6549 cost= 0.036752079
Epoch: 6550 cost= 0.032909367
Epoch: 6551 cost= 0.037534487
Epoch: 6552 cost= 0.032777596
Epoch: 6553 cost= 0.034513667
Epoch: 6554 cost= 0.034701839
Epoch: 6555 cost= 0.034309328
Epoch: 6556 cost= 0.032842524
Epoch: 6557 cost= 0.032950491
Epoch: 6558 cost= 0.035426605
```

```
Epoch: 6559 cost= 0.033516277
Epoch: 6560 cost= 0.034431759
Epoch: 6561 cost= 0.033301003
Epoch: 6562 cost= 0.031423796
Epoch: 6563 cost= 0.035872519
Epoch: 6564 cost= 0.033293713
Epoch: 6565 cost= 0.031265821
Epoch: 6566 cost= 0.034861106
Epoch: 6567 cost= 0.034049273
Epoch: 6568 cost= 0.033699103
Epoch: 6569 cost= 0.033891845
Epoch: 6570 cost= 0.034821961
Epoch: 6571 cost= 0.033616953
Epoch: 6572 cost= 0.036800943
Epoch: 6573 cost= 0.032932881
Epoch: 6574 cost= 0.033821594
Epoch: 6575 cost= 0.035317529
Epoch: 6576 cost= 0.032085080
Epoch: 6577 cost= 0.034226485
Epoch: 6578 cost= 0.035090793
Epoch: 6579 cost= 0.033733539
Epoch: 6580 cost= 0.034807190
Epoch: 6581 cost= 0.035494339
Epoch: 6582 cost= 0.036333192
```

```
Epoch: 6583 cost= 0.033601847
Epoch: 6584 cost= 0.035427719
Epoch: 6585 cost= 0.033894971
Epoch: 6586 cost= 0.033539679
Epoch: 6587 cost= 0.033612184
Epoch: 6588 cost= 0.033719648
Epoch: 6589 cost= 0.034529191
Epoch: 6590 cost= 0.035189502
Epoch: 6591 cost= 0.031653430
Epoch: 6592 cost= 0.032919835
Epoch: 6593 cost= 0.033323526
Epoch: 6594 cost= 0.034610379
Epoch: 6595 cost= 0.032677233
Epoch: 6596 cost= 0.037796531
Epoch: 6597 cost= 0.033525825
Epoch: 6598 cost= 0.034815997
Epoch: 6599 cost= 0.035728265
Epoch: 6600 cost= 0.034452088
Epoch: 6601 cost= 0.035284854
Epoch: 6602 cost= 0.034561560
Epoch: 6603 cost= 0.033997610
Epoch: 6604 cost= 0.034308322
Epoch: 6605 cost= 0.036530878
Epoch: 6606 cost= 0.033884462
```

```
Epoch: 6607 cost= 0.032549612
Epoch: 6608 cost= 0.034212068
Epoch: 6609 cost= 0.034825642
Epoch: 6610 cost= 0.034836497
Epoch: 6611 cost= 0.036026809
Epoch: 6612 cost= 0.033600718
Epoch: 6613 cost= 0.034257773
Epoch: 6614 cost= 0.034927733
Epoch: 6615 cost= 0.032814544
Epoch: 6616 cost= 0.035583258
Epoch: 6617 cost= 0.032421093
Epoch: 6618 cost= 0.033511110
Epoch: 6619 cost= 0.035163198
Epoch: 6620 cost= 0.032964732
Epoch: 6621 cost= 0.035720270
Epoch: 6622 cost= 0.033910237
Epoch: 6623 cost= 0.033174932
Epoch: 6624 cost= 0.035239797
Epoch: 6625 cost= 0.032617319
Epoch: 6626 cost= 0.032193944
Epoch: 6627 cost= 0.036803536
Epoch: 6628 cost= 0.035282198
Epoch: 6629 cost= 0.035027273
Epoch: 6630 cost= 0.034923188
```

```
Epoch: 6631 cost= 0.032753855
Epoch: 6632 cost= 0.036417406
Epoch: 6633 cost= 0.035012383
Epoch: 6634 cost= 0.034350868
Epoch: 6635 cost= 0.033983912
Epoch: 6636 cost= 0.034614716
Epoch: 6637 cost= 0.034764923
Epoch: 6638 cost= 0.034455940
Epoch: 6639 cost= 0.033904057
Epoch: 6640 cost= 0.031815831
Epoch: 6641 cost= 0.036247347
Epoch: 6642 cost= 0.033583675
Epoch: 6643 cost= 0.034815002
Epoch: 6644 cost= 0.033687722
Epoch: 6645 cost= 0.034908757
Epoch: 6646 cost= 0.032327425
Epoch: 6647 cost= 0.033552222
Epoch: 6648 cost= 0.033783738
Epoch: 6649 cost= 0.034972761
Epoch: 6650 cost= 0.034028493
Epoch: 6651 cost= 0.034943700
Epoch: 6652 cost= 0.034123469
Epoch: 6653 cost= 0.034179069
Epoch: 6654 cost= 0.034980059
```

```
Epoch: 6655 cost= 0.034012400
Epoch: 6656 cost= 0.033397023
Epoch: 6657 cost= 0.032804731
Epoch: 6658 cost= 0.032051265
Epoch: 6659 cost= 0.032851249
Epoch: 6660 cost= 0.034655370
Epoch: 6661 cost= 0.033287972
Epoch: 6662 cost= 0.033587124
Epoch: 6663 cost= 0.034193985
Epoch: 6664 cost= 0.033195905
Epoch: 6665 cost= 0.033815037
Epoch: 6666 cost= 0.036139391
Epoch: 6667 cost= 0.034227669
Epoch: 6668 cost= 0.032442845
Epoch: 6669 cost= 0.034485355
Epoch: 6670 cost= 0.032512307
Epoch: 6671 cost= 0.034733795
Epoch: 6672 cost= 0.032967526
Epoch: 6673 cost= 0.033913847
Epoch: 6674 cost= 0.035390880
Epoch: 6675 cost= 0.032489780
Epoch: 6676 cost= 0.035527725
Epoch: 6677 cost= 0.034452528
Epoch: 6678 cost= 0.033377912
```

```
Epoch: 6679 cost= 0.033506703
Epoch: 6680 cost= 0.035406921
Epoch: 6681 cost= 0.031781591
Epoch: 6682 cost= 0.036540207
Epoch: 6683 cost= 0.034817114
Epoch: 6684 cost= 0.031969991
Epoch: 6685 cost= 0.032845024
Epoch: 6686 cost= 0.032453824
Epoch: 6687 cost= 0.035596702
Epoch: 6688 cost= 0.034140795
Epoch: 6689 cost= 0.034665111
Epoch: 6690 cost= 0.033517372
Epoch: 6691 cost= 0.034183618
Epoch: 6692 cost= 0.035272680
Epoch: 6693 cost= 0.034916595
Epoch: 6694 cost= 0.035495955
Epoch: 6695 cost= 0.033557441
Epoch: 6696 cost= 0.035220601
Epoch: 6697 cost= 0.034363806
Epoch: 6698 cost= 0.034271084
Epoch: 6699 cost= 0.034993488
Epoch: 6700 cost= 0.033396874
Epoch: 6701 cost= 0.033219770
Epoch: 6702 cost= 0.032617304
```

```
Epoch: 6703 cost= 0.035900693
Epoch: 6704 cost= 0.033872332
Epoch: 6705 cost= 0.033143971
Epoch: 6706 cost= 0.034433052
Epoch: 6707 cost= 0.035263143
Epoch: 6708 cost= 0.033343349
Epoch: 6709 cost= 0.034977432
Epoch: 6710 cost= 0.034097340
Epoch: 6711 cost= 0.034067955
Epoch: 6712 cost= 0.034573160
Epoch: 6713 cost= 0.033927239
Epoch: 6714 cost= 0.034121200
Epoch: 6715 cost= 0.034672819
Epoch: 6716 cost= 0.034700073
Epoch: 6717 cost= 0.034550983
Epoch: 6718 cost= 0.033910587
Epoch: 6719 cost= 0.032334935
Epoch: 6720 cost= 0.034271460
Epoch: 6721 cost= 0.036069203
Epoch: 6722 cost= 0.035250910
Epoch: 6723 cost= 0.032813739
Epoch: 6724 cost= 0.034811657
Epoch: 6725 cost= 0.033717629
Epoch: 6726 cost= 0.034219489
```

```
Epoch: 6727 cost= 0.033755954
Epoch: 6728 cost= 0.034337576
Epoch: 6729 cost= 0.033242594
Epoch: 6730 cost= 0.035952643
Epoch: 6731 cost= 0.034312155
Epoch: 6732 cost= 0.034123674
Epoch: 6733 cost= 0.033244688
Epoch: 6734 cost= 0.033781834
Epoch: 6735 cost= 0.033771772
Epoch: 6736 cost= 0.032160360
Epoch: 6737 cost= 0.035801206
Epoch: 6738 cost= 0.034652121
Epoch: 6739 cost= 0.035108015
Epoch: 6740 cost= 0.034149263
Epoch: 6741 cost= 0.034304984
Epoch: 6742 cost= 0.033319086
Epoch: 6743 cost= 0.034300793
Epoch: 6744 cost= 0.035306577
Epoch: 6745 cost= 0.033438124
Epoch: 6746 cost= 0.034511998
Epoch: 6747 cost= 0.034849957
Epoch: 6748 cost= 0.034291714
Epoch: 6749 cost= 0.034776088
Epoch: 6750 cost= 0.035359032
```

```
Epoch: 6751 cost= 0.034791894
Epoch: 6752 cost= 0.034479827
Epoch: 6753 cost= 0.034209926
Epoch: 6754 cost= 0.033156667
Epoch: 6755 cost= 0.035187058
Epoch: 6756 cost= 0.034786187
Epoch: 6757 cost= 0.033879776
Epoch: 6758 cost= 0.032928377
Epoch: 6759 cost= 0.034654129
Epoch: 6760 cost= 0.033654075
Epoch: 6761 cost= 0.034211438
Epoch: 6762 cost= 0.031954687
Epoch: 6763 cost= 0.033402033
Epoch: 6764 cost= 0.033932503
Epoch: 6765 cost= 0.034257337
Epoch: 6766 cost= 0.033854362
Epoch: 6767 cost= 0.031271487
Epoch: 6768 cost= 0.033838794
Epoch: 6769 cost= 0.033254862
Epoch: 6770 cost= 0.034455497
Epoch: 6771 cost= 0.035229687
Epoch: 6772 cost= 0.033574723
Epoch: 6773 cost= 0.034313854
Epoch: 6774 cost= 0.033644423
```

```
Epoch: 6775 cost= 0.037221752
Epoch: 6776 cost= 0.033850245
Epoch: 6777 cost= 0.033938948
Epoch: 6778 cost= 0.033985492
Epoch: 6779 cost= 0.033183426
Epoch: 6780 cost= 0.033340842
Epoch: 6781 cost= 0.033233959
Epoch: 6782 cost= 0.034381807
Epoch: 6783 cost= 0.035519097
Epoch: 6784 cost= 0.032270875
Epoch: 6785 cost= 0.033662707
Epoch: 6786 cost= 0.030145707
Epoch: 6787 cost= 0.032799885
Epoch: 6788 cost= 0.034001905
Epoch: 6789 cost= 0.037247993
Epoch: 6790 cost= 0.032682031
Epoch: 6791 cost= 0.034107920
Epoch: 6792 cost= 0.034646802
Epoch: 6793 cost= 0.034492075
Epoch: 6794 cost= 0.034962617
Epoch: 6795 cost= 0.033658214
Epoch: 6796 cost= 0.033537243
Epoch: 6797 cost= 0.034471925
Epoch: 6798 cost= 0.034041949
```

```
Epoch: 6799 cost= 0.034790125
Epoch: 6800 cost= 0.032083571
Epoch: 6801 cost= 0.033668038
Epoch: 6802 cost= 0.036148887
Epoch: 6803 cost= 0.036533739
Epoch: 6804 cost= 0.035110459
Epoch: 6805 cost= 0.034350127
Epoch: 6806 cost= 0.033788130
Epoch: 6807 cost= 0.036351297
Epoch: 6808 cost= 0.034586307
Epoch: 6809 cost= 0.035083883
Epoch: 6810 cost= 0.034926116
Epoch: 6811 cost= 0.035949882
Epoch: 6812 cost= 0.032610323
Epoch: 6813 cost= 0.033370659
Epoch: 6814 cost= 0.036725216
Epoch: 6815 cost= 0.035058115
Epoch: 6816 cost= 0.033714369
Epoch: 6817 cost= 0.032782089
Epoch: 6818 cost= 0.035960097
Epoch: 6819 cost= 0.034723695
Epoch: 6820 cost= 0.034852404
Epoch: 6821 cost= 0.032422170
Epoch: 6822 cost= 0.033749737
```

```
Epoch: 6823 cost= 0.034281921
Epoch: 6824 cost= 0.031561822
Epoch: 6825 cost= 0.034780338
Epoch: 6826 cost= 0.033129618
Epoch: 6827 cost= 0.036000572
Epoch: 6828 cost= 0.035088032
Epoch: 6829 cost= 0.035428870
Epoch: 6830 cost= 0.033489987
Epoch: 6831 cost= 0.033323400
Epoch: 6832 cost= 0.033996228
Epoch: 6833 cost= 0.032972194
Epoch: 6834 cost= 0.034184873
Epoch: 6835 cost= 0.033243317
Epoch: 6836 cost= 0.034496672
Epoch: 6837 cost= 0.034195915
Epoch: 6838 cost= 0.034240261
Epoch: 6839 cost= 0.035862099
Epoch: 6840 cost= 0.033735659
Epoch: 6841 cost= 0.035281658
Epoch: 6842 cost= 0.034028899
Epoch: 6843 cost= 0.032896325
Epoch: 6844 cost= 0.033169713
Epoch: 6845 cost= 0.034345042
Epoch: 6846 cost= 0.032431990
```

```
Epoch: 6847 cost= 0.035984639
Epoch: 6848 cost= 0.034180742
Epoch: 6849 cost= 0.035732154
Epoch: 6850 cost= 0.033538122
Epoch: 6851 cost= 0.032177120
Epoch: 6852 cost= 0.034697544
Epoch: 6853 cost= 0.033055529
Epoch: 6854 cost= 0.036178935
Epoch: 6855 cost= 0.035151351
Epoch: 6856 cost= 0.033225484
Epoch: 6857 cost= 0.036849603
Epoch: 6858 cost= 0.032887846
Epoch: 6859 cost= 0.035003532
Epoch: 6860 cost= 0.032752026
Epoch: 6861 cost= 0.032939192
Epoch: 6862 cost= 0.035089392
Epoch: 6863 cost= 0.034169022
Epoch: 6864 cost= 0.033698995
Epoch: 6865 cost= 0.033613425
Epoch: 6866 cost= 0.033820402
Epoch: 6867 cost= 0.034743939
Epoch: 6868 cost= 0.035775863
Epoch: 6869 cost= 0.033209518
Epoch: 6870 cost= 0.033123951
```

```
Epoch: 6871 cost= 0.034679193
Epoch: 6872 cost= 0.035279121
Epoch: 6873 cost= 0.033903785
Epoch: 6874 cost= 0.033444364
Epoch: 6875 cost= 0.034199927
Epoch: 6876 cost= 0.034457013
Epoch: 6877 cost= 0.032293390
Epoch: 6878 cost= 0.033126593
Epoch: 6879 cost= 0.036047172
Epoch: 6880 cost= 0.034784976
Epoch: 6881 cost= 0.034882955
Epoch: 6882 cost= 0.033679791
Epoch: 6883 cost= 0.035063479
Epoch: 6884 cost= 0.035181172
Epoch: 6885 cost= 0.033826116
Epoch: 6886 cost= 0.033913959
Epoch: 6887 cost= 0.033285215
Epoch: 6888 cost= 0.031226888
Epoch: 6889 cost= 0.033125497
Epoch: 6890 cost= 0.033684950
Epoch: 6891 cost= 0.034332931
Epoch: 6892 cost= 0.033990666
Epoch: 6893 cost= 0.032384329
Epoch: 6894 cost= 0.034113187
```

```
Epoch: 6895 cost= 0.033760373
Epoch: 6896 cost= 0.035120182
Epoch: 6897 cost= 0.035252184
Epoch: 6898 cost= 0.033588264
Epoch: 6899 cost= 0.033712700
Epoch: 6900 cost= 0.034462798
Epoch: 6901 cost= 0.033467583
Epoch: 6902 cost= 0.033212215
Epoch: 6903 cost= 0.035884462
Epoch: 6904 cost= 0.035579115
Epoch: 6905 cost= 0.036419470
Epoch: 6906 cost= 0.033935037
Epoch: 6907 cost= 0.033930216
Epoch: 6908 cost= 0.035830483
Epoch: 6909 cost= 0.035611484
Epoch: 6910 cost= 0.034018930
Epoch: 6911 cost= 0.036086593
Epoch: 6912 cost= 0.033797998
Epoch: 6913 cost= 0.034871038
Epoch: 6914 cost= 0.033663258
Epoch: 6915 cost= 0.034470569
Epoch: 6916 cost= 0.036072697
Epoch: 6917 cost= 0.033279788
Epoch: 6918 cost= 0.032401133
```

```
Epoch: 6919 cost= 0.032034378
Epoch: 6920 cost= 0.033659358
Epoch: 6921 cost= 0.032103628
Epoch: 6922 cost= 0.035328694
Epoch: 6923 cost= 0.033947598
Epoch: 6924 cost= 0.033187941
Epoch: 6925 cost= 0.034556322
Epoch: 6926 cost= 0.034538209
Epoch: 6927 cost= 0.034025054
Epoch: 6928 cost= 0.035535768
Epoch: 6929 cost= 0.035559881
Epoch: 6930 cost= 0.032443151
Epoch: 6931 cost= 0.033801902
Epoch: 6932 cost= 0.033200767
Epoch: 6933 cost= 0.035405494
Epoch: 6934 cost= 0.034776032
Epoch: 6935 cost= 0.031613376
Epoch: 6936 cost= 0.034863938
Epoch: 6937 cost= 0.035455339
Epoch: 6938 cost= 0.033215284
Epoch: 6939 cost= 0.035296991
Epoch: 6940 cost= 0.034864683
Epoch: 6941 cost= 0.033437476
Epoch: 6942 cost= 0.036517147
```

```
Epoch: 6943 cost= 0.035799913
Epoch: 6944 cost= 0.036257107
Epoch: 6945 cost= 0.035371792
Epoch: 6946 cost= 0.034350954
Epoch: 6947 cost= 0.032796428
Epoch: 6948 cost= 0.034214795
Epoch: 6949 cost= 0.035259724
Epoch: 6950 cost= 0.033556569
Epoch: 6951 cost= 0.033267040
Epoch: 6952 cost= 0.033153187
Epoch: 6953 cost= 0.035365865
Epoch: 6954 cost= 0.034865420
Epoch: 6955 cost= 0.035894517
Epoch: 6956 cost= 0.033794012
Epoch: 6957 cost= 0.034553640
Epoch: 6958 cost= 0.033553150
Epoch: 6959 cost= 0.033469751
Epoch: 6960 cost= 0.034645971
Epoch: 6961 cost= 0.034201846
Epoch: 6962 cost= 0.035243452
Epoch: 6963 cost= 0.035193946
Epoch: 6964 cost= 0.032816518
Epoch: 6965 cost= 0.036610052
Epoch: 6966 cost= 0.033057082
```

```
Epoch: 6967 cost= 0.033696570
Epoch: 6968 cost= 0.033891331
Epoch: 6969 cost= 0.032331277
Epoch: 6970 cost= 0.035619169
Epoch: 6971 cost= 0.034520984
Epoch: 6972 cost= 0.034584254
Epoch: 6973 cost= 0.033283759
Epoch: 6974 cost= 0.033760026
Epoch: 6975 cost= 0.034955613
Epoch: 6976 cost= 0.033632647
Epoch: 6977 cost= 0.034698408
Epoch: 6978 cost= 0.035479445
Epoch: 6979 cost= 0.033764128
Epoch: 6980 cost= 0.034853857
Epoch: 6981 cost= 0.035187736
Epoch: 6982 cost= 0.031548660
Epoch: 6983 cost= 0.035017535
Epoch: 6984 cost= 0.033991404
Epoch: 6985 cost= 0.034534451
Epoch: 6986 cost= 0.033764150
Epoch: 6987 cost= 0.032844581
Epoch: 6988 cost= 0.031751782
Epoch: 6989 cost= 0.032421280
Epoch: 6990 cost= 0.034348190
```

```
Epoch: 6991 cost= 0.035341170
Epoch: 6992 cost= 0.033468679
Epoch: 6993 cost= 0.031733796
Epoch: 6994 cost= 0.032470137
Epoch: 6995 cost= 0.035554174
Epoch: 6996 cost= 0.034557093
Epoch: 6997 cost= 0.033404164
Epoch: 6998 cost= 0.035236474
Epoch: 6999 cost= 0.035595216
Epoch: 7000 cost= 0.034483682
Epoch: 7001 cost= 0.033864882
Epoch: 7002 cost= 0.036545362
Epoch: 7003 cost= 0.035051797
Epoch: 7004 cost= 0.034173358
Epoch: 7005 cost= 0.034607846
Epoch: 7006 cost= 0.035106990
Epoch: 7007 cost= 0.034962565
Epoch: 7008 cost= 0.033806615
Epoch: 7009 cost= 0.033054914
Epoch: 7010 cost= 0.033758160
Epoch: 7011 cost= 0.033451188
Epoch: 7012 cost= 0.033785585
Epoch: 7013 cost= 0.034266565
Epoch: 7014 cost= 0.035418063
```

```
Epoch: 7015 cost= 0.032973211
Epoch: 7016 cost= 0.033388905
Epoch: 7017 cost= 0.034785099
Epoch: 7018 cost= 0.035271287
Epoch: 7019 cost= 0.035948791
Epoch: 7020 cost= 0.032678831
Epoch: 7021 cost= 0.034976497
Epoch: 7022 cost= 0.034164976
Epoch: 7023 cost= 0.034795724
Epoch: 7024 cost= 0.033453364
Epoch: 7025 cost= 0.033892263
Epoch: 7026 cost= 0.034910478
Epoch: 7027 cost= 0.032364722
Epoch: 7028 cost= 0.033185557
Epoch: 7029 cost= 0.033591129
Epoch: 7030 cost= 0.033340149
Epoch: 7031 cost= 0.035108171
Epoch: 7032 cost= 0.034534063
Epoch: 7033 cost= 0.033143051
Epoch: 7034 cost= 0.031676017
Epoch: 7035 cost= 0.032685220
Epoch: 7036 cost= 0.033766676
Epoch: 7037 cost= 0.033344254
Epoch: 7038 cost= 0.034980204
```

```
Epoch: 7039 cost= 0.033238832
Epoch: 7040 cost= 0.034247555
Epoch: 7041 cost= 0.035008613
Epoch: 7042 cost= 0.035660535
Epoch: 7043 cost= 0.035972212
Epoch: 7044 cost= 0.034578819
Epoch: 7045 cost= 0.034975909
Epoch: 7046 cost= 0.033761702
Epoch: 7047 cost= 0.034321893
Epoch: 7048 cost= 0.035533041
Epoch: 7049 cost= 0.036309954
Epoch: 7050 cost= 0.034296986
Epoch: 7051 cost= 0.033628885
Epoch: 7052 cost= 0.035473034
Epoch: 7053 cost= 0.033608209
Epoch: 7054 cost= 0.031941526
Epoch: 7055 cost= 0.033877384
Epoch: 7056 cost= 0.035447549
Epoch: 7057 cost= 0.033917781
Epoch: 7058 cost= 0.035030670
Epoch: 7059 cost= 0.033733178
Epoch: 7060 cost= 0.031925753
Epoch: 7061 cost= 0.033655658
Epoch: 7062 cost= 0.034114573
```

```
Epoch: 7063 cost= 0.032490406
Epoch: 7064 cost= 0.035004407
Epoch: 7065 cost= 0.033717696
Epoch: 7066 cost= 0.033943854
Epoch: 7067 cost= 0.034281526
Epoch: 7068 cost= 0.035426993
Epoch: 7069 cost= 0.033281267
Epoch: 7070 cost= 0.035044350
Epoch: 7071 cost= 0.032445941
Epoch: 7072 cost= 0.034632187
Epoch: 7073 cost= 0.032478124
Epoch: 7074 cost= 0.034200918
Epoch: 7075 cost= 0.034732204
Epoch: 7076 cost= 0.033783466
Epoch: 7077 cost= 0.032126389
Epoch: 7078 cost= 0.033550307
Epoch: 7079 cost= 0.033282839
Epoch: 7080 cost= 0.033579834
Epoch: 7081 cost= 0.033394337
Epoch: 7082 cost= 0.034347326
Epoch: 7083 cost= 0.033559907
Epoch: 7084 cost= 0.034374677
Epoch: 7085 cost= 0.032187451
Epoch: 7086 cost= 0.033892233
```

```
Epoch: 7087 cost= 0.033180434
Epoch: 7088 cost= 0.033876006
Epoch: 7089 cost= 0.032252952
Epoch: 7090 cost= 0.032805953
Epoch: 7091 cost= 0.032870706
Epoch: 7092 cost= 0.034597456
Epoch: 7093 cost= 0.033391744
Epoch: 7094 cost= 0.032973558
Epoch: 7095 cost= 0.036774140
Epoch: 7096 cost= 0.031864740
Epoch: 7097 cost= 0.033209756
Epoch: 7098 cost= 0.033808164
Epoch: 7099 cost= 0.033700161
Epoch: 7100 cost= 0.031757932
Epoch: 7101 cost= 0.034558393
Epoch: 7102 cost= 0.033750433
Epoch: 7103 cost= 0.034081280
Epoch: 7104 cost= 0.034299210
Epoch: 7105 cost= 0.035654787
Epoch: 7106 cost= 0.034409277
Epoch: 7107 cost= 0.034939062
Epoch: 7108 cost= 0.036158383
Epoch: 7109 cost= 0.034443326
Epoch: 7110 cost= 0.034649696
```

```
Epoch: 7111 cost= 0.033075429
Epoch: 7112 cost= 0.032040715
Epoch: 7113 cost= 0.032404434
Epoch: 7114 cost= 0.035276812
Epoch: 7115 cost= 0.033990428
Epoch: 7116 cost= 0.033518940
Epoch: 7117 cost= 0.033211838
Epoch: 7118 cost= 0.034991924
Epoch: 7119 cost= 0.034079850
Epoch: 7120 cost= 0.032921873
Epoch: 7121 cost= 0.033479836
Epoch: 7122 cost= 0.034685757
Epoch: 7123 cost= 0.034235973
Epoch: 7124 cost= 0.032720134
Epoch: 7125 cost= 0.031605255
Epoch: 7126 cost= 0.033924226
Epoch: 7127 cost= 0.033640604
Epoch: 7128 cost= 0.034279317
Epoch: 7129 cost= 0.033696998
Epoch: 7130 cost= 0.033969078
Epoch: 7131 cost= 0.034416765
Epoch: 7132 cost= 0.035233717
Epoch: 7133 cost= 0.033821549
Epoch: 7134 cost= 0.032527935
```

```
Epoch: 7135 cost= 0.032651987
Epoch: 7136 cost= 0.034644574
Epoch: 7137 cost= 0.035481989
Epoch: 7138 cost= 0.032814149
Epoch: 7139 cost= 0.034658257
Epoch: 7140 cost= 0.032759376
Epoch: 7141 cost= 0.032740768
Epoch: 7142 cost= 0.035683572
Epoch: 7143 cost= 0.032473966
Epoch: 7144 cost= 0.034330063
Epoch: 7145 cost= 0.033756014
Epoch: 7146 cost= 0.036463242
Epoch: 7147 cost= 0.034859635
Epoch: 7148 cost= 0.035192359
Epoch: 7149 cost= 0.034819208
Epoch: 7150 cost= 0.034075052
Epoch: 7151 cost= 0.036851980
Epoch: 7152 cost= 0.034794379
Epoch: 7153 cost= 0.034730971
Epoch: 7154 cost= 0.032545436
Epoch: 7155 cost= 0.035146620
Epoch: 7156 cost= 0.033612523
Epoch: 7157 cost= 0.033843201
Epoch: 7158 cost= 0.035822824
```

```
Epoch: 7159 cost= 0.033567116
Epoch: 7160 cost= 0.034742862
Epoch: 7161 cost= 0.031242445
Epoch: 7162 cost= 0.032456387
Epoch: 7163 cost= 0.032799210
Epoch: 7164 cost= 0.034994598
Epoch: 7165 cost= 0.036822595
Epoch: 7166 cost= 0.034646757
Epoch: 7167 cost= 0.033215988
Epoch: 7168 cost= 0.034059223
Epoch: 7169 cost= 0.034395408
Epoch: 7170 cost= 0.034728143
Epoch: 7171 cost= 0.034764286
Epoch: 7172 cost= 0.033982679
Epoch: 7173 cost= 0.034902103
Epoch: 7174 cost= 0.034192055
Epoch: 7175 cost= 0.034723807
Epoch: 7176 cost= 0.032968346
Epoch: 7177 cost= 0.034405325
Epoch: 7178 cost= 0.035881788
Epoch: 7179 cost= 0.034497675
Epoch: 7180 cost= 0.036369748
Epoch: 7181 cost= 0.034675840
Epoch: 7182 cost= 0.033733513
```

```
Epoch: 7183 cost= 0.034749717
Epoch: 7184 cost= 0.031783722
Epoch: 7185 cost= 0.035305336
Epoch: 7186 cost= 0.033944577
Epoch: 7187 cost= 0.031747177
Epoch: 7188 cost= 0.032261018
Epoch: 7189 cost= 0.032382764
Epoch: 7190 cost= 0.032621685
Epoch: 7191 cost= 0.035080813
Epoch: 7192 cost= 0.034656085
Epoch: 7193 cost= 0.033369768
Epoch: 7194 cost= 0.036028937
Epoch: 7195 cost= 0.035323028
Epoch: 7196 cost= 0.032716956
Epoch: 7197 cost= 0.035383437
Epoch: 7198 cost= 0.033727624
Epoch: 7199 cost= 0.035339277
Epoch: 7200 cost= 0.032637849
Epoch: 7201 cost= 0.034338865
Epoch: 7202 cost= 0.035711255
Epoch: 7203 cost= 0.034482643
Epoch: 7204 cost= 0.032544676
Epoch: 7205 cost= 0.035649080
Epoch: 7206 cost= 0.034615695
```

```
Epoch: 7207 cost= 0.033933438
Epoch: 7208 cost= 0.033562806
Epoch: 7209 cost= 0.034472302
Epoch: 7210 cost= 0.033331823
Epoch: 7211 cost= 0.032663200
Epoch: 7212 cost= 0.033856202
Epoch: 7213 cost= 0.034474105
Epoch: 7214 cost= 0.033236966
Epoch: 7215 cost= 0.034922462
Epoch: 7216 cost= 0.031955048
Epoch: 7217 cost= 0.033752937
Epoch: 7218 cost= 0.033052303
Epoch: 7219 cost= 0.034978323
Epoch: 7220 cost= 0.035734680
Epoch: 7221 cost= 0.032909505
Epoch: 7222 cost= 0.035699017
Epoch: 7223 cost= 0.034240425
Epoch: 7224 cost= 0.032592259
Epoch: 7225 cost= 0.031353083
Epoch: 7226 cost= 0.033509381
Epoch: 7227 cost= 0.034427568
Epoch: 7228 cost= 0.034920689
Epoch: 7229 cost= 0.033684608
Epoch: 7230 cost= 0.033007976
```

```
Epoch: 7231 cost= 0.036378726
Epoch: 7232 cost= 0.034711156
Epoch: 7233 cost= 0.032942057
Epoch: 7234 cost= 0.033372104
Epoch: 7235 cost= 0.034055661
Epoch: 7236 cost= 0.033879459
Epoch: 7237 cost= 0.033175226
Epoch: 7238 cost= 0.032095999
Epoch: 7239 cost= 0.034083873
Epoch: 7240 cost= 0.034308467
Epoch: 7241 cost= 0.034801263
Epoch: 7242 cost= 0.034208916
Epoch: 7243 cost= 0.035206288
Epoch: 7244 cost= 0.035234526
Epoch: 7245 cost= 0.033603571
Epoch: 7246 cost= 0.034353204
Epoch: 7247 cost= 0.032770056
Epoch: 7248 cost= 0.034132868
Epoch: 7249 cost= 0.033029027
Epoch: 7250 cost= 0.034499433
Epoch: 7251 cost= 0.033388350
Epoch: 7252 cost= 0.034762226
Epoch: 7253 cost= 0.033455376
Epoch: 7254 cost= 0.033561721
```

```
Epoch: 7255 cost= 0.033758074
Epoch: 7256 cost= 0.037281081
Epoch: 7257 cost= 0.033155207
Epoch: 7258 cost= 0.033023048
Epoch: 7259 cost= 0.034414295
Epoch: 7260 cost= 0.032705482
Epoch: 7261 cost= 0.033587441
Epoch: 7262 cost= 0.032087535
Epoch: 7263 cost= 0.033550952
Epoch: 7264 cost= 0.034461837
Epoch: 7265 cost= 0.033382315
Epoch: 7266 cost= 0.033156127
Epoch: 7267 cost= 0.033684399
Epoch: 7268 cost= 0.033989139
Epoch: 7269 cost= 0.034038115
Epoch: 7270 cost= 0.034801442
Epoch: 7271 cost= 0.033905923
Epoch: 7272 cost= 0.036388736
Epoch: 7273 cost= 0.034978013
Epoch: 7274 cost= 0.033115085
Epoch: 7275 cost= 0.034345113
Epoch: 7276 cost= 0.034041520
Epoch: 7277 cost= 0.035545655
Epoch: 7278 cost= 0.032055818
```

```
Epoch: 7279 cost= 0.032843817
Epoch: 7280 cost= 0.033926975
Epoch: 7281 cost= 0.034437276
Epoch: 7282 cost= 0.034746706
Epoch: 7283 cost= 0.032729559
Epoch: 7284 cost= 0.032952003
Epoch: 7285 cost= 0.034402382
Epoch: 7286 cost= 0.033863384
Epoch: 7287 cost= 0.032923892
Epoch: 7288 cost= 0.034670357
Epoch: 7289 cost= 0.033178732
Epoch: 7290 cost= 0.035478827
Epoch: 7291 cost= 0.035492767
Epoch: 7292 cost= 0.035382912
Epoch: 7293 cost= 0.034743998
Epoch: 7294 cost= 0.033213109
Epoch: 7295 cost= 0.036560025
Epoch: 7296 cost= 0.034364384
Epoch: 7297 cost= 0.035778835
Epoch: 7298 cost= 0.034313694
Epoch: 7299 cost= 0.034603529
Epoch: 7300 cost= 0.033883691
Epoch: 7301 cost= 0.032772988
Epoch: 7302 cost= 0.035580888
```

```
Epoch: 7303 cost= 0.033319555
Epoch: 7304 cost= 0.032963756
Epoch: 7305 cost= 0.035192907
Epoch: 7306 cost= 0.034841925
Epoch: 7307 cost= 0.033126920
Epoch: 7308 cost= 0.033708226
Epoch: 7309 cost= 0.033574451
Epoch: 7310 cost= 0.033246439
Epoch: 7311 cost= 0.035098426
Epoch: 7312 cost= 0.036085319
Epoch: 7313 cost= 0.033158816
Epoch: 7314 cost= 0.033540715
Epoch: 7315 cost= 0.035464305
Epoch: 7316 cost= 0.031407069
Epoch: 7317 cost= 0.033990506
Epoch: 7318 cost= 0.034811784
Epoch: 7319 cost= 0.033329513
Epoch: 7320 cost= 0.033979163
Epoch: 7321 cost= 0.033495694
Epoch: 7322 cost= 0.033859693
Epoch: 7323 cost= 0.031650562
Epoch: 7324 cost= 0.033113748
Epoch: 7325 cost= 0.035407104
Epoch: 7326 cost= 0.033121012
```

```
Epoch: 7327 cost= 0.035227649
Epoch: 7328 cost= 0.035357747
Epoch: 7329 cost= 0.033969685
Epoch: 7330 cost= 0.033006229
Epoch: 7331 cost= 0.035118133
Epoch: 7332 cost= 0.033461716
Epoch: 7333 cost= 0.036434148
Epoch: 7334 cost= 0.034677047
Epoch: 7335 cost= 0.034944758
Epoch: 7336 cost= 0.032803304
Epoch: 7337 cost= 0.032400653
Epoch: 7338 cost= 0.033211101
Epoch: 7339 cost= 0.034514859
Epoch: 7340 cost= 0.033625741
Epoch: 7341 cost= 0.035008144
Epoch: 7342 cost= 0.034269415
Epoch: 7343 cost= 0.033430040
Epoch: 7344 cost= 0.030641705
Epoch: 7345 cost= 0.035025626
Epoch: 7346 cost= 0.033398759
Epoch: 7347 cost= 0.034916632
Epoch: 7348 cost= 0.033639308
Epoch: 7349 cost= 0.030955307
Epoch: 7350 cost= 0.035240270
```

```
Epoch: 7351 cost= 0.033912502
Epoch: 7352 cost= 0.034256596
Epoch: 7353 cost= 0.034326192
Epoch: 7354 cost= 0.033390485
Epoch: 7355 cost= 0.032714617
Epoch: 7356 cost= 0.036571752
Epoch: 7357 cost= 0.034493841
Epoch: 7358 cost= 0.033555668
Epoch: 7359 cost= 0.034896046
Epoch: 7360 cost= 0.034166928
Epoch: 7361 cost= 0.031912751
Epoch: 7362 cost= 0.035900399
Epoch: 7363 cost= 0.032888807
Epoch: 7364 cost= 0.033900663
Epoch: 7365 cost= 0.031005718
Epoch: 7366 cost= 0.035042297
Epoch: 7367 cost= 0.033063367
Epoch: 7368 cost= 0.033202812
Epoch: 7369 cost= 0.033695120
Epoch: 7370 cost= 0.034227557
Epoch: 7371 cost= 0.031987794
Epoch: 7372 cost= 0.032231517
Epoch: 7373 cost= 0.034682773
Epoch: 7374 cost= 0.036704965
```

```
Epoch: 7375 cost= 0.033490274
Epoch: 7376 cost= 0.033921771
Epoch: 7377 cost= 0.031481985
Epoch: 7378 cost= 0.035389729
Epoch: 7379 cost= 0.034392815
Epoch: 7380 cost= 0.031300753
Epoch: 7381 cost= 0.033724658
Epoch: 7382 cost= 0.034722198
Epoch: 7383 cost= 0.034141317
Epoch: 7384 cost= 0.033528674
Epoch: 7385 cost= 0.033630121
Epoch: 7386 cost= 0.032344192
Epoch: 7387 cost= 0.035636015
Epoch: 7388 cost= 0.034271192
Epoch: 7389 cost= 0.035551116
Epoch: 7390 cost= 0.035050191
Epoch: 7391 cost= 0.031595148
Epoch: 7392 cost= 0.034202348
Epoch: 7393 cost= 0.033621136
Epoch: 7394 cost= 0.034841094
Epoch: 7395 cost= 0.032687292
Epoch: 7396 cost= 0.032264750
Epoch: 7397 cost= 0.034289960
Epoch: 7398 cost= 0.031574968
```

```
Epoch: 7399 cost= 0.035143338
Epoch: 7400 cost= 0.035055548
Epoch: 7401 cost= 0.033835150
Epoch: 7402 cost= 0.033385996
Epoch: 7403 cost= 0.032937508
Epoch: 7404 cost= 0.034065746
Epoch: 7405 cost= 0.033691265
Epoch: 7406 cost= 0.034488738
Epoch: 7407 cost= 0.033810288
Epoch: 7408 cost= 0.034411017
Epoch: 7409 cost= 0.031071361
Epoch: 7410 cost= 0.033829860
Epoch: 7411 cost= 0.033438560
Epoch: 7412 cost= 0.035308719
Epoch: 7413 cost= 0.034179792
Epoch: 7414 cost= 0.034141354
Epoch: 7415 cost= 0.032918919
Epoch: 7416 cost= 0.033329029
Epoch: 7417 cost= 0.032277774
Epoch: 7418 cost= 0.033020485
Epoch: 7419 cost= 0.032847114
Epoch: 7420 cost= 0.034353234
Epoch: 7421 cost= 0.033624660
Epoch: 7422 cost= 0.033667643
```

```
Epoch: 7423 cost= 0.033760887
Epoch: 7424 cost= 0.034145344
Epoch: 7425 cost= 0.032254823
Epoch: 7426 cost= 0.035636086
Epoch: 7427 cost= 0.034376055
Epoch: 7428 cost= 0.033895075
Epoch: 7429 cost= 0.034766622
Epoch: 7430 cost= 0.035424858
Epoch: 7431 cost= 0.032746460
Epoch: 7432 cost= 0.035320733
Epoch: 7433 cost= 0.033646062
Epoch: 7434 cost= 0.032640517
Epoch: 7435 cost= 0.034813877
Epoch: 7436 cost= 0.034628492
Epoch: 7437 cost= 0.034673136
Epoch: 7438 cost= 0.031646125
Epoch: 7439 cost= 0.034926385
Epoch: 7440 cost= 0.034365483
Epoch: 7441 cost= 0.032821689
Epoch: 7442 cost= 0.033024173
Epoch: 7443 cost= 0.031411387
Epoch: 7444 cost= 0.034452792
Epoch: 7445 cost= 0.032312788
Epoch: 7446 cost= 0.035128351
```

```
Epoch: 7447 cost= 0.034571629
Epoch: 7448 cost= 0.033053536
Epoch: 7449 cost= 0.035594061
Epoch: 7450 cost= 0.032931767
Epoch: 7451 cost= 0.033541255
Epoch: 7452 cost= 0.034301620
Epoch: 7453 cost= 0.032894321
Epoch: 7454 cost= 0.033938605
Epoch: 7455 cost= 0.032445259
Epoch: 7456 cost= 0.035550416
Epoch: 7457 cost= 0.033034891
Epoch: 7458 cost= 0.032077260
Epoch: 7459 cost= 0.033962183
Epoch: 7460 cost= 0.034849647
Epoch: 7461 cost= 0.033688914
Epoch: 7462 cost= 0.031785540
Epoch: 7463 cost= 0.032416951
Epoch: 7464 cost= 0.033204012
Epoch: 7465 cost= 0.036942232
Epoch: 7466 cost= 0.033786599
Epoch: 7467 cost= 0.034126837
Epoch: 7468 cost= 0.030975925
Epoch: 7469 cost= 0.034759246
Epoch: 7470 cost= 0.033496980
```

```
Epoch: 7471 cost= 0.033738330
Epoch: 7472 cost= 0.032605525
Epoch: 7473 cost= 0.032363702
Epoch: 7474 cost= 0.035171788
Epoch: 7475 cost= 0.033304214
Epoch: 7476 cost= 0.036043353
Epoch: 7477 cost= 0.034719456
Epoch: 7478 cost= 0.032565579
Epoch: 7479 cost= 0.034678057
Epoch: 7480 cost= 0.033501357
Epoch: 7481 cost= 0.033243444
Epoch: 7482 cost= 0.034079324
Epoch: 7483 cost= 0.032740511
Epoch: 7484 cost= 0.033828635
Epoch: 7485 cost= 0.033199456
Epoch: 7486 cost= 0.033301085
Epoch: 7487 cost= 0.034122504
Epoch: 7488 cost= 0.034922563
Epoch: 7489 cost= 0.034513801
Epoch: 7490 cost= 0.033564240
Epoch: 7491 cost= 0.034712866
Epoch: 7492 cost= 0.033306848
Epoch: 7493 cost= 0.034574099
Epoch: 7494 cost= 0.031996887
```

```
Epoch: 7495 cost= 0.034067046
Epoch: 7496 cost= 0.034089714
Epoch: 7497 cost= 0.034695130
Epoch: 7498 cost= 0.033149891
Epoch: 7499 cost= 0.034285802
Epoch: 7500 cost= 0.032034781
Epoch: 7501 cost= 0.035542663
Epoch: 7502 cost= 0.032764342
Epoch: 7503 cost= 0.034788199
Epoch: 7504 cost= 0.034636937
Epoch: 7505 cost= 0.034203324
Epoch: 7506 cost= 0.033514135
Epoch: 7507 cost= 0.035253592
Epoch: 7508 cost= 0.031613976
Epoch: 7509 cost= 0.032078795
Epoch: 7510 cost= 0.032225702
Epoch: 7511 cost= 0.032005567
Epoch: 7512 cost= 0.034749877
Epoch: 7513 cost= 0.035271458
Epoch: 7514 cost= 0.034441125
Epoch: 7515 cost= 0.033589080
Epoch: 7516 cost= 0.036971796
Epoch: 7517 cost= 0.034407772
Epoch: 7518 cost= 0.034375656
```

```
Epoch: 7519 cost= 0.033719607
Epoch: 7520 cost= 0.035073332
Epoch: 7521 cost= 0.033235379
Epoch: 7522 cost= 0.033864867
Epoch: 7523 cost= 0.034209091
Epoch: 7524 cost= 0.032760173
Epoch: 7525 cost= 0.034691785
Epoch: 7526 cost= 0.033938698
Epoch: 7527 cost= 0.034024179
Epoch: 7528 cost= 0.035211597
Epoch: 7529 cost= 0.034966957
Epoch: 7530 cost= 0.032751817
Epoch: 7531 cost= 0.032971144
Epoch: 7532 cost= 0.034721330
Epoch: 7533 cost= 0.032074537
Epoch: 7534 cost= 0.034467801
Epoch: 7535 cost= 0.033880260
Epoch: 7536 cost= 0.033561129
Epoch: 7537 cost= 0.033242468
Epoch: 7538 cost= 0.034655157
Epoch: 7539 cost= 0.033573639
Epoch: 7540 cost= 0.033825278
Epoch: 7541 cost= 0.032855906
Epoch: 7542 cost= 0.033106733
```

```
Epoch: 7543 cost= 0.031730410
Epoch: 7544 cost= 0.033286121
Epoch: 7545 cost= 0.034205403
Epoch: 7546 cost= 0.034618907
Epoch: 7547 cost= 0.034350302
Epoch: 7548 cost= 0.032963082
Epoch: 7549 cost= 0.034364186
Epoch: 7550 cost= 0.034499515
Epoch: 7551 cost= 0.033383340
Epoch: 7552 cost= 0.033543095
Epoch: 7553 cost= 0.032965630
Epoch: 7554 cost= 0.032861188
Epoch: 7555 cost= 0.034381203
Epoch: 7556 cost= 0.034623723
Epoch: 7557 cost= 0.034135666
Epoch: 7558 cost= 0.033260670
Epoch: 7559 cost= 0.031992089
Epoch: 7560 cost= 0.035885680
Epoch: 7561 cost= 0.034234680
Epoch: 7562 cost= 0.033362467
Epoch: 7563 cost= 0.033607952
Epoch: 7564 cost= 0.035270452
Epoch: 7565 cost= 0.034049008
Epoch: 7566 cost= 0.034285694
```

```
Epoch: 7567 cost= 0.034192882
Epoch: 7568 cost= 0.032069419
Epoch: 7569 cost= 0.034777876
Epoch: 7570 cost= 0.033181369
Epoch: 7571 cost= 0.033985753
Epoch: 7572 cost= 0.034098864
Epoch: 7573 cost= 0.035916753
Epoch: 7574 cost= 0.034912668
Epoch: 7575 cost= 0.034149092
Epoch: 7576 cost= 0.034449119
Epoch: 7577 cost= 0.035952128
Epoch: 7578 cost= 0.032436665
Epoch: 7579 cost= 0.034928415
Epoch: 7580 cost= 0.033027928
Epoch: 7581 cost= 0.032004215
Epoch: 7582 cost= 0.034283370
Epoch: 7583 cost= 0.035511579
Epoch: 7584 cost= 0.035194259
Epoch: 7585 cost= 0.033554550
Epoch: 7586 cost= 0.034238614
Epoch: 7587 cost= 0.032540850
Epoch: 7588 cost= 0.031739477
Epoch: 7589 cost= 0.033773426
Epoch: 7590 cost= 0.035051502
```

```
Epoch: 7591 cost= 0.033635527
Epoch: 7592 cost= 0.035197213
Epoch: 7593 cost= 0.032289956
Epoch: 7594 cost= 0.033517689
Epoch: 7595 cost= 0.034171578
Epoch: 7596 cost= 0.032986704
Epoch: 7597 cost= 0.033231523
Epoch: 7598 cost= 0.034456324
Epoch: 7599 cost= 0.033064071
Epoch: 7600 cost= 0.032793105
Epoch: 7601 cost= 0.033184908
Epoch: 7602 cost= 0.033549439
Epoch: 7603 cost= 0.034608666
Epoch: 7604 cost= 0.033331886
Epoch: 7605 cost= 0.035292063
Epoch: 7606 cost= 0.034494948
Epoch: 7607 cost= 0.034022525
Epoch: 7608 cost= 0.033355474
Epoch: 7609 cost= 0.033828896
Epoch: 7610 cost= 0.034683783
Epoch: 7611 cost= 0.034906879
Epoch: 7612 cost= 0.032989584
Epoch: 7613 cost= 0.033083562
Epoch: 7614 cost= 0.034160607
```

```
Epoch: 7615 cost= 0.034975734
Epoch: 7616 cost= 0.031041088
Epoch: 7617 cost= 0.032283351
Epoch: 7618 cost= 0.033622790
Epoch: 7619 cost= 0.033012144
Epoch: 7620 cost= 0.033123195
Epoch: 7621 cost= 0.033842314
Epoch: 7622 cost= 0.032974198
Epoch: 7623 cost= 0.032768890
Epoch: 7624 cost= 0.033625472
Epoch: 7625 cost= 0.034308195
Epoch: 7626 cost= 0.036798157
Epoch: 7627 cost= 0.033977278
Epoch: 7628 cost= 0.032688662
Epoch: 7629 cost= 0.033560503
Epoch: 7630 cost= 0.035078742
Epoch: 7631 cost= 0.033971947
Epoch: 7632 cost= 0.034369800
Epoch: 7633 cost= 0.033689220
Epoch: 7634 cost= 0.034603775
Epoch: 7635 cost= 0.034402180
Epoch: 7636 cost= 0.035009146
Epoch: 7637 cost= 0.035596948
Epoch: 7638 cost= 0.035066959
```

```
Epoch: 7639 cost= 0.032886211
Epoch: 7640 cost= 0.035310168
Epoch: 7641 cost= 0.032265786
Epoch: 7642 cost= 0.035229132
Epoch: 7643 cost= 0.034578517
Epoch: 7644 cost= 0.034451008
Epoch: 7645 cost= 0.033749063
Epoch: 7646 cost= 0.031533625
Epoch: 7647 cost= 0.033176649
Epoch: 7648 cost= 0.034637876
Epoch: 7649 cost= 0.035163287
Epoch: 7650 cost= 0.032663826
Epoch: 7651 cost= 0.032619879
Epoch: 7652 cost= 0.034095414
Epoch: 7653 cost= 0.033584010
Epoch: 7654 cost= 0.034275580
Epoch: 7655 cost= 0.032297265
Epoch: 7656 cost= 0.035078362
Epoch: 7657 cost= 0.034713749
Epoch: 7658 cost= 0.034669209
Epoch: 7659 cost= 0.034754138
Epoch: 7660 cost= 0.032842781
Epoch: 7661 cost= 0.032578472
Epoch: 7662 cost= 0.035272945
```

```
Epoch: 7663 cost= 0.031563867
Epoch: 7664 cost= 0.032590859
Epoch: 7665 cost= 0.032305721
Epoch: 7666 cost= 0.032527529
Epoch: 7667 cost= 0.035208762
Epoch: 7668 cost= 0.033081152
Epoch: 7669 cost= 0.033132885
Epoch: 7670 cost= 0.033737648
Epoch: 7671 cost= 0.033919163
Epoch: 7672 cost= 0.034231260
Epoch: 7673 cost= 0.034374669
Epoch: 7674 cost= 0.033263091
Epoch: 7675 cost= 0.034099735
Epoch: 7676 cost= 0.034499221
Epoch: 7677 cost= 0.034785029
Epoch: 7678 cost= 0.034982108
Epoch: 7679 cost= 0.033145908
Epoch: 7680 cost= 0.033035625
Epoch: 7681 cost= 0.034715030
Epoch: 7682 cost= 0.033567090
Epoch: 7683 cost= 0.035829231
Epoch: 7684 cost= 0.033953749
Epoch: 7685 cost= 0.033732064
Epoch: 7686 cost= 0.035118185
```

```
Epoch: 7687 cost= 0.033384621
Epoch: 7688 cost= 0.034618661
Epoch: 7689 cost= 0.032415397
Epoch: 7690 cost= 0.034121446
Epoch: 7691 cost= 0.033948600
Epoch: 7692 cost= 0.033097215
Epoch: 7693 cost= 0.033503428
Epoch: 7694 cost= 0.033597618
Epoch: 7695 cost= 0.034403816
Epoch: 7696 cost= 0.033170179
Epoch: 7697 cost= 0.034111258
Epoch: 7698 cost= 0.035350326
Epoch: 7699 cost= 0.034194786
Epoch: 7700 cost= 0.032706134
Epoch: 7701 cost= 0.034410823
Epoch: 7702 cost= 0.033997357
Epoch: 7703 cost= 0.032385871
Epoch: 7704 cost= 0.033580046
Epoch: 7705 cost= 0.034864727
Epoch: 7706 cost= 0.031683419
Epoch: 7707 cost= 0.035540044
Epoch: 7708 cost= 0.034815036
Epoch: 7709 cost= 0.032950502
Epoch: 7710 cost= 0.034767400
```

```
Epoch: 7711 cost= 0.033092242
Epoch: 7712 cost= 0.034965664
Epoch: 7713 cost= 0.033445194
Epoch: 7714 cost= 0.032798532
Epoch: 7715 cost= 0.034632303
Epoch: 7716 cost= 0.033307675
Epoch: 7717 cost= 0.033832874
Epoch: 7718 cost= 0.033956405
Epoch: 7719 cost= 0.032329995
Epoch: 7720 cost= 0.033695608
Epoch: 7721 cost= 0.033924848
Epoch: 7722 cost= 0.035581768
Epoch: 7723 cost= 0.033411674
Epoch: 7724 cost= 0.033409886
Epoch: 7725 cost= 0.034452911
Epoch: 7726 cost= 0.034688812
Epoch: 7727 cost= 0.034728732
Epoch: 7728 cost= 0.034330435
Epoch: 7729 cost= 0.034193542
Epoch: 7730 cost= 0.033368457
Epoch: 7731 cost= 0.033102028
Epoch: 7732 cost= 0.034923602
Epoch: 7733 cost= 0.033317722
Epoch: 7734 cost= 0.034781832
```

```
Epoch: 7735 cost= 0.035178594
Epoch: 7736 cost= 0.033456806
Epoch: 7737 cost= 0.032940112
Epoch: 7738 cost= 0.033195231
Epoch: 7739 cost= 0.034463085
Epoch: 7740 cost= 0.033689123
Epoch: 7741 cost= 0.033414673
Epoch: 7742 cost= 0.032946855
Epoch: 7743 cost= 0.032880232
Epoch: 7744 cost= 0.035913274
Epoch: 7745 cost= 0.033202402
Epoch: 7746 cost= 0.032690968
Epoch: 7747 cost= 0.032403234
Epoch: 7748 cost= 0.033421099
Epoch: 7749 cost= 0.033509195
Epoch: 7750 cost= 0.034228526
Epoch: 7751 cost= 0.033776965
Epoch: 7752 cost= 0.033315320
Epoch: 7753 cost= 0.032298595
Epoch: 7754 cost= 0.031950209
Epoch: 7755 cost= 0.033021245
Epoch: 7756 cost= 0.033066306
Epoch: 7757 cost= 0.035075217
Epoch: 7758 cost= 0.034458611
```

```
Epoch: 7759 cost= 0.033033811
Epoch: 7760 cost= 0.033819016
Epoch: 7761 cost= 0.033297725
Epoch: 7762 cost= 0.032862253
Epoch: 7763 cost= 0.031641949
Epoch: 7764 cost= 0.032399409
Epoch: 7765 cost= 0.034750246
Epoch: 7766 cost= 0.033029370
Epoch: 7767 cost= 0.036148258
Epoch: 7768 cost= 0.034138057
Epoch: 7769 cost= 0.034874253
Epoch: 7770 cost= 0.035765264
Epoch: 7771 cost= 0.032633308
Epoch: 7772 cost= 0.032778200
Epoch: 7773 cost= 0.035421479
Epoch: 7774 cost= 0.035144899
Epoch: 7775 cost= 0.032729525
Epoch: 7776 cost= 0.032466251
Epoch: 7777 cost= 0.034652371
Epoch: 7778 cost= 0.032689113
Epoch: 7779 cost= 0.032967985
Epoch: 7780 cost= 0.035089586
Epoch: 7781 cost= 0.033760283
Epoch: 7782 cost= 0.032995250
```

```
Epoch: 7783 cost= 0.035528243
Epoch: 7784 cost= 0.036370557
Epoch: 7785 cost= 0.034340799
Epoch: 7786 cost= 0.033566371
Epoch: 7787 cost= 0.033924941
Epoch: 7788 cost= 0.033984553
Epoch: 7789 cost= 0.034817893
Epoch: 7790 cost= 0.036452301
Epoch: 7791 cost= 0.032471359
Epoch: 7792 cost= 0.034993574
Epoch: 7793 cost= 0.032796577
Epoch: 7794 cost= 0.033820521
Epoch: 7795 cost= 0.033472113
Epoch: 7796 cost= 0.033272728
Epoch: 7797 cost= 0.033671018
Epoch: 7798 cost= 0.035199866
Epoch: 7799 cost= 0.032698952
Epoch: 7800 cost= 0.033365611
Epoch: 7801 cost= 0.034553342
Epoch: 7802 cost= 0.032373257
Epoch: 7803 cost= 0.033384692
Epoch: 7804 cost= 0.036213014
Epoch: 7805 cost= 0.034436025
Epoch: 7806 cost= 0.033187438
```

```
Epoch: 7807 cost= 0.035433006
Epoch: 7808 cost= 0.034708455
Epoch: 7809 cost= 0.032334175
Epoch: 7810 cost= 0.034393694
Epoch: 7811 cost= 0.033076759
Epoch: 7812 cost= 0.033826269
Epoch: 7813 cost= 0.034094524
Epoch: 7814 cost= 0.034145355
Epoch: 7815 cost= 0.032594971
Epoch: 7816 cost= 0.034557115
Epoch: 7817 cost= 0.033457037
Epoch: 7818 cost= 0.035291705
Epoch: 7819 cost= 0.033106245
Epoch: 7820 cost= 0.032034382
Epoch: 7821 cost= 0.032970507
Epoch: 7822 cost= 0.035448700
Epoch: 7823 cost= 0.033401519
Epoch: 7824 cost= 0.033060387
Epoch: 7825 cost= 0.034293208
Epoch: 7826 cost= 0.034765530
Epoch: 7827 cost= 0.033075005
Epoch: 7828 cost= 0.032707915
Epoch: 7829 cost= 0.033165976
Epoch: 7830 cost= 0.034919199
```

```
Epoch: 7831 cost= 0.034500405
Epoch: 7832 cost= 0.033113610
Epoch: 7833 cost= 0.032688446
Epoch: 7834 cost= 0.033709649
Epoch: 7835 cost= 0.034860216
Epoch: 7836 cost= 0.036719650
Epoch: 7837 cost= 0.033240575
Epoch: 7838 cost= 0.031977877
Epoch: 7839 cost= 0.033219233
Epoch: 7840 cost= 0.033387944
Epoch: 7841 cost= 0.034581628
Epoch: 7842 cost= 0.034081493
Epoch: 7843 cost= 0.034172434
Epoch: 7844 cost= 0.034701619
Epoch: 7845 cost= 0.032610126
Epoch: 7846 cost= 0.035051811
Epoch: 7847 cost= 0.033450987
Epoch: 7848 cost= 0.032859739
Epoch: 7849 cost= 0.033376276
Epoch: 7850 cost= 0.033729319
Epoch: 7851 cost= 0.032779153
Epoch: 7852 cost= 0.032498959
Epoch: 7853 cost= 0.032679673
Epoch: 7854 cost= 0.032850277
```

```
Epoch: 7855 cost= 0.033282138
Epoch: 7856 cost= 0.035648096
Epoch: 7857 cost= 0.033021607
Epoch: 7858 cost= 0.031855777
Epoch: 7859 cost= 0.034332674
Epoch: 7860 cost= 0.034112427
Epoch: 7861 cost= 0.035194557
Epoch: 7862 cost= 0.035844918
Epoch: 7863 cost= 0.033279650
Epoch: 7864 cost= 0.034452267
Epoch: 7865 cost= 0.035105001
Epoch: 7866 cost= 0.033553410
Epoch: 7867 cost= 0.032483932
Epoch: 7868 cost= 0.034672346
Epoch: 7869 cost= 0.033030774
Epoch: 7870 cost= 0.031786092
Epoch: 7871 cost= 0.034073181
Epoch: 7872 cost= 0.033846650
Epoch: 7873 cost= 0.034965519
Epoch: 7874 cost= 0.032757983
Epoch: 7875 cost= 0.033112373
Epoch: 7876 cost= 0.031661157
Epoch: 7877 cost= 0.034566510
Epoch: 7878 cost= 0.032268316
```

```
Epoch: 7879 cost= 0.033069458
Epoch: 7880 cost= 0.033376027
Epoch: 7881 cost= 0.032422155
Epoch: 7882 cost= 0.034938738
Epoch: 7883 cost= 0.033357963
Epoch: 7884 cost= 0.035457842
Epoch: 7885 cost= 0.033229176
Epoch: 7886 cost= 0.034678221
Epoch: 7887 cost= 0.034208603
Epoch: 7888 cost= 0.035732973
Epoch: 7889 cost= 0.034121305
Epoch: 7890 cost= 0.036733948
Epoch: 7891 cost= 0.033431202
Epoch: 7892 cost= 0.031648271
Epoch: 7893 cost= 0.034526590
Epoch: 7894 cost= 0.034659412
Epoch: 7895 cost= 0.034233157
Epoch: 7896 cost= 0.033243217
Epoch: 7897 cost= 0.035698324
Epoch: 7898 cost= 0.032282554
Epoch: 7899 cost= 0.033460904
Epoch: 7900 cost= 0.033740629
Epoch: 7901 cost= 0.032351568
Epoch: 7902 cost= 0.033586919
```

```
Epoch: 7903 cost= 0.036275715
Epoch: 7904 cost= 0.034149308
Epoch: 7905 cost= 0.033029918
Epoch: 7906 cost= 0.032906104
Epoch: 7907 cost= 0.036711872
Epoch: 7908 cost= 0.032349374
Epoch: 7909 cost= 0.031094916
Epoch: 7910 cost= 0.035096735
Epoch: 7911 cost= 0.033546973
Epoch: 7912 cost= 0.032931853
Epoch: 7913 cost= 0.033412643
Epoch: 7914 cost= 0.033747524
Epoch: 7915 cost= 0.034206659
Epoch: 7916 cost= 0.035377670
Epoch: 7917 cost= 0.033155512
Epoch: 7918 cost= 0.033911299
Epoch: 7919 cost= 0.034016788
Epoch: 7920 cost= 0.033393197
Epoch: 7921 cost= 0.036179818
Epoch: 7922 cost= 0.033743877
Epoch: 7923 cost= 0.034539681
Epoch: 7924 cost= 0.033985373
Epoch: 7925 cost= 0.033315755
Epoch: 7926 cost= 0.033294071
```

```
Epoch: 7927 cost= 0.032819245
Epoch: 7928 cost= 0.033468824
Epoch: 7929 cost= 0.033091273
Epoch: 7930 cost= 0.034262385
Epoch: 7931 cost= 0.033706535
Epoch: 7932 cost= 0.035310652
Epoch: 7933 cost= 0.033604998
Epoch: 7934 cost= 0.034113776
Epoch: 7935 cost= 0.034338310
Epoch: 7936 cost= 0.031428207
Epoch: 7937 cost= 0.034737144
Epoch: 7938 cost= 0.033167947
Epoch: 7939 cost= 0.033696290
Epoch: 7940 cost= 0.033674981
Epoch: 7941 cost= 0.034483403
Epoch: 7942 cost= 0.031920511
Epoch: 7943 cost= 0.035702415
Epoch: 7944 cost= 0.035096671
Epoch: 7945 cost= 0.034794889
Epoch: 7946 cost= 0.033239689
Epoch: 7947 cost= 0.034263242
Epoch: 7948 cost= 0.033168692
Epoch: 7949 cost= 0.033553291
Epoch: 7950 cost= 0.032922868
```

```
Epoch: 7951 cost= 0.033972830
Epoch: 7952 cost= 0.032828718
Epoch: 7953 cost= 0.033622306
Epoch: 7954 cost= 0.034510355
Epoch: 7955 cost= 0.035048336
Epoch: 7956 cost= 0.032987323
Epoch: 7957 cost= 0.034053024
Epoch: 7958 cost= 0.034067415
Epoch: 7959 cost= 0.034122027
Epoch: 7960 cost= 0.034682784
Epoch: 7961 cost= 0.036047392
Epoch: 7962 cost= 0.033677865
Epoch: 7963 cost= 0.034437593
Epoch: 7964 cost= 0.035839196
Epoch: 7965 cost= 0.033816155
Epoch: 7966 cost= 0.034043238
Epoch: 7967 cost= 0.034503106
Epoch: 7968 cost= 0.034137949
Epoch: 7969 cost= 0.032571767
Epoch: 7970 cost= 0.033195857
Epoch: 7971 cost= 0.033694286
Epoch: 7972 cost= 0.035004389
Epoch: 7973 cost= 0.034373231
Epoch: 7974 cost= 0.033975136
```

```
Epoch: 7975 cost= 0.033468157
Epoch: 7976 cost= 0.032572135
Epoch: 7977 cost= 0.034832913
Epoch: 7978 cost= 0.033662163
Epoch: 7979 cost= 0.033048913
Epoch: 7980 cost= 0.033951938
Epoch: 7981 cost= 0.036107767
Epoch: 7982 cost= 0.033061858
Epoch: 7983 cost= 0.034257237
Epoch: 7984 cost= 0.034694575
Epoch: 7985 cost= 0.033982046
Epoch: 7986 cost= 0.033367019
Epoch: 7987 cost= 0.032942805
Epoch: 7988 cost= 0.034827504
Epoch: 7989 cost= 0.036551327
Epoch: 7990 cost= 0.032333251
Epoch: 7991 cost= 0.033690687
Epoch: 7992 cost= 0.033729538
Epoch: 7993 cost= 0.034486409
Epoch: 7994 cost= 0.032825295
Epoch: 7995 cost= 0.033040766
Epoch: 7996 cost= 0.034220718
Epoch: 7997 cost= 0.033958178
Epoch: 7998 cost= 0.032669224
```

```
Epoch: 7999 cost= 0.032678153
Epoch: 8000 cost= 0.033497237
Epoch: 8001 cost= 0.033123426
Epoch: 8002 cost= 0.034691811
Epoch: 8003 cost= 0.035549849
Epoch: 8004 cost= 0.035244703
Epoch: 8005 cost= 0.033486515
Epoch: 8006 cost= 0.034876440
Epoch: 8007 cost= 0.033701200
Epoch: 8008 cost= 0.031508952
Epoch: 8009 cost= 0.033132203
Epoch: 8010 cost= 0.033992898
Epoch: 8011 cost= 0.034627885
Epoch: 8012 cost= 0.032613698
Epoch: 8013 cost= 0.032308027
Epoch: 8014 cost= 0.032772530
Epoch: 8015 cost= 0.032835815
Epoch: 8016 cost= 0.035117254
Epoch: 8017 cost= 0.031401906
Epoch: 8018 cost= 0.034883179
Epoch: 8019 cost= 0.032862805
Epoch: 8020 cost= 0.034200404
Epoch: 8021 cost= 0.033076473
Epoch: 8022 cost= 0.032800466
```

```
Epoch: 8023 cost= 0.034997083
Epoch: 8024 cost= 0.034501851
Epoch: 8025 cost= 0.035556935
Epoch: 8026 cost= 0.032183673
Epoch: 8027 cost= 0.036725830
Epoch: 8028 cost= 0.032334492
Epoch: 8029 cost= 0.034218967
Epoch: 8030 cost= 0.034304138
Epoch: 8031 cost= 0.033047337
Epoch: 8032 cost= 0.032978445
Epoch: 8033 cost= 0.034784518
Epoch: 8034 cost= 0.036042672
Epoch: 8035 cost= 0.035756968
Epoch: 8036 cost= 0.033100791
Epoch: 8037 cost= 0.034105781
Epoch: 8038 cost= 0.035168976
Epoch: 8039 cost= 0.032970782
Epoch: 8040 cost= 0.035564911
Epoch: 8041 cost= 0.032565195
Epoch: 8042 cost= 0.033552896
Epoch: 8043 cost= 0.033958975
Epoch: 8044 cost= 0.034261484
Epoch: 8045 cost= 0.035121404
Epoch: 8046 cost= 0.033798907
```

```
Epoch: 8047 cost= 0.035856791
Epoch: 8048 cost= 0.034657881
Epoch: 8049 cost= 0.032423783
Epoch: 8050 cost= 0.033046361
Epoch: 8051 cost= 0.031498738
Epoch: 8052 cost= 0.034411922
Epoch: 8053 cost= 0.033042476
Epoch: 8054 cost= 0.035047557
Epoch: 8055 cost= 0.032876778
Epoch: 8056 cost= 0.034988198
Epoch: 8057 cost= 0.035053391
Epoch: 8058 cost= 0.033113927
Epoch: 8059 cost= 0.033514265
Epoch: 8060 cost= 0.034595340
Epoch: 8061 cost= 0.032796688
Epoch: 8062 cost= 0.033890601
Epoch: 8063 cost= 0.033858344
Epoch: 8064 cost= 0.033308771
Epoch: 8065 cost= 0.034000576
Epoch: 8066 cost= 0.033542834
Epoch: 8067 cost= 0.034334630
Epoch: 8068 cost= 0.033294499
Epoch: 8069 cost= 0.033401079
Epoch: 8070 cost= 0.033102646
```

```
Epoch: 8071 cost= 0.033639308
Epoch: 8072 cost= 0.033157408
Epoch: 8073 cost= 0.034264974
Epoch: 8074 cost= 0.035398558
Epoch: 8075 cost= 0.035219494
Epoch: 8076 cost= 0.032579806
Epoch: 8077 cost= 0.033963554
Epoch: 8078 cost= 0.034862485
Epoch: 8079 cost= 0.032277524
Epoch: 8080 cost= 0.033917490
Epoch: 8081 cost= 0.033298258
Epoch: 8082 cost= 0.032626200
Epoch: 8083 cost= 0.036349475
Epoch: 8084 cost= 0.034018219
Epoch: 8085 cost= 0.035813916
Epoch: 8086 cost= 0.034627527
Epoch: 8087 cost= 0.036129173
Epoch: 8088 cost= 0.034106098
Epoch: 8089 cost= 0.034672737
Epoch: 8090 cost= 0.032746244
Epoch: 8091 cost= 0.032683760
Epoch: 8092 cost= 0.032922819
Epoch: 8093 cost= 0.032705121
Epoch: 8094 cost= 0.034312438
```

```
Epoch: 8095 cost= 0.036097728
Epoch: 8096 cost= 0.034695581
Epoch: 8097 cost= 0.034752578
Epoch: 8098 cost= 0.034319401
Epoch: 8099 cost= 0.034282517
Epoch: 8100 cost= 0.033249374
Epoch: 8101 cost= 0.035447109
Epoch: 8102 cost= 0.034662243
Epoch: 8103 cost= 0.036087587
Epoch: 8104 cost= 0.032089952
Epoch: 8105 cost= 0.033640690
Epoch: 8106 cost= 0.035332683
Epoch: 8107 cost= 0.034444548
Epoch: 8108 cost= 0.032778006
Epoch: 8109 cost= 0.033845395
Epoch: 8110 cost= 0.035200451
Epoch: 8111 cost= 0.033833362
Epoch: 8112 cost= 0.034171592
Epoch: 8113 cost= 0.034591209
Epoch: 8114 cost= 0.032764319
Epoch: 8115 cost= 0.034910738
Epoch: 8116 cost= 0.034793835
Epoch: 8117 cost= 0.033246726
Epoch: 8118 cost= 0.033632994
```

```
Epoch: 8119 cost= 0.034137264
Epoch: 8120 cost= 0.034440082
Epoch: 8121 cost= 0.032728095
Epoch: 8122 cost= 0.032839946
Epoch: 8123 cost= 0.033273958
Epoch: 8124 cost= 0.032313854
Epoch: 8125 cost= 0.032211848
Epoch: 8126 cost= 0.035443638
Epoch: 8127 cost= 0.036565315
Epoch: 8128 cost= 0.035000481
Epoch: 8129 cost= 0.034474377
Epoch: 8130 cost= 0.034534473
Epoch: 8131 cost= 0.032308064
Epoch: 8132 cost= 0.034767359
Epoch: 8133 cost= 0.033609573
Epoch: 8134 cost= 0.033354525
Epoch: 8135 cost= 0.034065004
Epoch: 8136 cost= 0.032873232
Epoch: 8137 cost= 0.031917155
Epoch: 8138 cost= 0.032650530
Epoch: 8139 cost= 0.033666100
Epoch: 8140 cost= 0.034168679
Epoch: 8141 cost= 0.033875089
Epoch: 8142 cost= 0.033364937
```

```
Epoch: 8143 cost= 0.031274181
Epoch: 8144 cost= 0.032794714
Epoch: 8145 cost= 0.031495776
Epoch: 8146 cost= 0.034626171
Epoch: 8147 cost= 0.035833243
Epoch: 8148 cost= 0.032982655
Epoch: 8149 cost= 0.038343426
Epoch: 8150 cost= 0.035088208
Epoch: 8151 cost= 0.034275088
Epoch: 8152 cost= 0.035116389
Epoch: 8153 cost= 0.034817994
Epoch: 8154 cost= 0.034947917
Epoch: 8155 cost= 0.034276150
Epoch: 8156 cost= 0.035231929
Epoch: 8157 cost= 0.033623971
Epoch: 8158 cost= 0.036132436
Epoch: 8159 cost= 0.033918738
Epoch: 8160 cost= 0.035042774
Epoch: 8161 cost= 0.034737322
Epoch: 8162 cost= 0.035917375
Epoch: 8163 cost= 0.036660720
Epoch: 8164 cost= 0.032961667
Epoch: 8165 cost= 0.033679340
Epoch: 8166 cost= 0.032453537
```

```
Epoch: 8167 cost= 0.033724338
Epoch: 8168 cost= 0.034824289
Epoch: 8169 cost= 0.033299401
Epoch: 8170 cost= 0.030582111
Epoch: 8171 cost= 0.032791387
Epoch: 8172 cost= 0.035659477
Epoch: 8173 cost= 0.033721298
Epoch: 8174 cost= 0.032778744
Epoch: 8175 cost= 0.033438511
Epoch: 8176 cost= 0.032344550
Epoch: 8177 cost= 0.035501070
Epoch: 8178 cost= 0.036542807
Epoch: 8179 cost= 0.033533584
Epoch: 8180 cost= 0.032917917
Epoch: 8181 cost= 0.031506479
Epoch: 8182 cost= 0.034612209
Epoch: 8183 cost= 0.033787690
Epoch: 8184 cost= 0.034315601
Epoch: 8185 cost= 0.034193885
Epoch: 8186 cost= 0.035493705
Epoch: 8187 cost= 0.032531705
Epoch: 8188 cost= 0.034784902
Epoch: 8189 cost= 0.033111334
Epoch: 8190 cost= 0.033635240
```

```
Epoch: 8191 cost= 0.033595957
Epoch: 8192 cost= 0.032331064
Epoch: 8193 cost= 0.033416480
Epoch: 8194 cost= 0.033397421
Epoch: 8195 cost= 0.034661762
Epoch: 8196 cost= 0.033339620
Epoch: 8197 cost= 0.034324363
Epoch: 8198 cost= 0.034758735
Epoch: 8199 cost= 0.034067865
Epoch: 8200 cost= 0.034492932
Epoch: 8201 cost= 0.034216069
Epoch: 8202 cost= 0.033607222
Epoch: 8203 cost= 0.034525685
Epoch: 8204 cost= 0.032323852
Epoch: 8205 cost= 0.033116873
Epoch: 8206 cost= 0.031849831
Epoch: 8207 cost= 0.034363665
Epoch: 8208 cost= 0.036509518
Epoch: 8209 cost= 0.035437003
Epoch: 8210 cost= 0.034275439
Epoch: 8211 cost= 0.035218842
Epoch: 8212 cost= 0.035379887
Epoch: 8213 cost= 0.035276543
Epoch: 8214 cost= 0.033073045
```

```
Epoch: 8215 cost= 0.034358863
Epoch: 8216 cost= 0.034798335
Epoch: 8217 cost= 0.036581703
Epoch: 8218 cost= 0.034576055
Epoch: 8219 cost= 0.033563897
Epoch: 8220 cost= 0.032563072
Epoch: 8221 cost= 0.033467419
Epoch: 8222 cost= 0.035446409
Epoch: 8223 cost= 0.032005709
Epoch: 8224 cost= 0.035713937
Epoch: 8225 cost= 0.034990340
Epoch: 8226 cost= 0.032642402
Epoch: 8227 cost= 0.032578308
Epoch: 8228 cost= 0.035159331
Epoch: 8229 cost= 0.034788739
Epoch: 8230 cost= 0.032927137
Epoch: 8231 cost= 0.032146599
Epoch: 8232 cost= 0.031928223
Epoch: 8233 cost= 0.034472805
Epoch: 8234 cost= 0.032615121
Epoch: 8235 cost= 0.032725133
Epoch: 8236 cost= 0.032534223
Epoch: 8237 cost= 0.033763174
Epoch: 8238 cost= 0.033184819
```

```
Epoch: 8239 cost= 0.036402285
Epoch: 8240 cost= 0.032868497
Epoch: 8241 cost= 0.034422562
Epoch: 8242 cost= 0.032737959
Epoch: 8243 cost= 0.033286564
Epoch: 8244 cost= 0.032242421
Epoch: 8245 cost= 0.032983080
Epoch: 8246 cost= 0.032899819
Epoch: 8247 cost= 0.034282934
Epoch: 8248 cost= 0.035047259
Epoch: 8249 cost= 0.033931892
Epoch: 8250 cost= 0.034711048
Epoch: 8251 cost= 0.035411797
Epoch: 8252 cost= 0.032369580
Epoch: 8253 cost= 0.035240568
Epoch: 8254 cost= 0.034155194
Epoch: 8255 cost= 0.033829138
Epoch: 8256 cost= 0.033017240
Epoch: 8257 cost= 0.034140553
Epoch: 8258 cost= 0.033161782
Epoch: 8259 cost= 0.034302175
Epoch: 8260 cost= 0.035772797
Epoch: 8261 cost= 0.035381272
Epoch: 8262 cost= 0.033687066
```

```
Epoch: 8263 cost= 0.032516941
Epoch: 8264 cost= 0.033146832
Epoch: 8265 cost= 0.034472540
Epoch: 8266 cost= 0.035194758
Epoch: 8267 cost= 0.032179702
Epoch: 8268 cost= 0.033939432
Epoch: 8269 cost= 0.032564815
Epoch: 8270 cost= 0.035446912
Epoch: 8271 cost= 0.033742033
Epoch: 8272 cost= 0.035361316
Epoch: 8273 cost= 0.033988528
Epoch: 8274 cost= 0.034015428
Epoch: 8275 cost= 0.035360888
Epoch: 8276 cost= 0.033946674
Epoch: 8277 cost= 0.034551453
Epoch: 8278 cost= 0.034994412
Epoch: 8279 cost= 0.032873925
Epoch: 8280 cost= 0.033514973
Epoch: 8281 cost= 0.034893055
Epoch: 8282 cost= 0.034222495
Epoch: 8283 cost= 0.032359011
Epoch: 8284 cost= 0.034408171
Epoch: 8285 cost= 0.034001429
Epoch: 8286 cost= 0.031359725
```

```
Epoch: 8287 cost= 0.035469498
Epoch: 8288 cost= 0.032152265
Epoch: 8289 cost= 0.033661410
Epoch: 8290 cost= 0.033376962
Epoch: 8291 cost= 0.034081884
Epoch: 8292 cost= 0.037378173
Epoch: 8293 cost= 0.034858182
Epoch: 8294 cost= 0.035677947
Epoch: 8295 cost= 0.033599231
Epoch: 8296 cost= 0.033091653
Epoch: 8297 cost= 0.033553220
Epoch: 8298 cost= 0.034591801
Epoch: 8299 cost= 0.032789446
Epoch: 8300 cost= 0.035348158
Epoch: 8301 cost= 0.032923725
Epoch: 8302 cost= 0.034737766
Epoch: 8303 cost= 0.031492848
Epoch: 8304 cost= 0.033950977
Epoch: 8305 cost= 0.034247156
Epoch: 8306 cost= 0.032303907
Epoch: 8307 cost= 0.032449573
Epoch: 8308 cost= 0.033283427
Epoch: 8309 cost= 0.034957185
Epoch: 8310 cost= 0.032824513
```

```
Epoch: 8311 cost= 0.035225317
Epoch: 8312 cost= 0.035130013
Epoch: 8313 cost= 0.035523839
Epoch: 8314 cost= 0.032391664
Epoch: 8315 cost= 0.035919301
Epoch: 8316 cost= 0.035624340
Epoch: 8317 cost= 0.035709541
Epoch: 8318 cost= 0.034066614
Epoch: 8319 cost= 0.033255778
Epoch: 8320 cost= 0.034281977
Epoch: 8321 cost= 0.037015211
Epoch: 8322 cost= 0.034652006
Epoch: 8323 cost= 0.032580234
Epoch: 8324 cost= 0.033462342
Epoch: 8325 cost= 0.034890678
Epoch: 8326 cost= 0.032775909
Epoch: 8327 cost= 0.033555519
Epoch: 8328 cost= 0.034884330
Epoch: 8329 cost= 0.034056582
Epoch: 8330 cost= 0.034593523
Epoch: 8331 cost= 0.032255564
Epoch: 8332 cost= 0.035287958
Epoch: 8333 cost= 0.034268901
Epoch: 8334 cost= 0.033893611
```

```
Epoch: 8335 cost= 0.033093274
Epoch: 8336 cost= 0.033777479
Epoch: 8337 cost= 0.033173870
Epoch: 8338 cost= 0.034408525
Epoch: 8339 cost= 0.034122236
Epoch: 8340 cost= 0.033103779
Epoch: 8341 cost= 0.036494780
Epoch: 8342 cost= 0.033378415
Epoch: 8343 cost= 0.033489626
Epoch: 8344 cost= 0.032266334
Epoch: 8345 cost= 0.034068979
Epoch: 8346 cost= 0.032065690
Epoch: 8347 cost= 0.033097882
Epoch: 8348 cost= 0.030879838
Epoch: 8349 cost= 0.034093663
Epoch: 8350 cost= 0.034612160
Epoch: 8351 cost= 0.033948291
Epoch: 8352 cost= 0.032829974
Epoch: 8353 cost= 0.034365509
Epoch: 8354 cost= 0.032721832
Epoch: 8355 cost= 0.034568012
Epoch: 8356 cost= 0.032735500
Epoch: 8357 cost= 0.033637796
Epoch: 8358 cost= 0.035860743
```

```
Epoch: 8359 cost= 0.033775181
Epoch: 8360 cost= 0.033847526
Epoch: 8361 cost= 0.034940448
Epoch: 8362 cost= 0.031014428
Epoch: 8363 cost= 0.035414811
Epoch: 8364 cost= 0.034732878
Epoch: 8365 cost= 0.032339111
Epoch: 8366 cost= 0.034783021
Epoch: 8367 cost= 0.035571288
Epoch: 8368 cost= 0.032389104
Epoch: 8369 cost= 0.034893740
Epoch: 8370 cost= 0.033026062
Epoch: 8371 cost= 0.034546126
Epoch: 8372 cost= 0.032638267
Epoch: 8373 cost= 0.034324601
Epoch: 8374 cost= 0.032687344
Epoch: 8375 cost= 0.034694955
Epoch: 8376 cost= 0.033110023
Epoch: 8377 cost= 0.033828121
Epoch: 8378 cost= 0.034907464
Epoch: 8379 cost= 0.033536430
Epoch: 8380 cost= 0.034832317
Epoch: 8381 cost= 0.034218717
Epoch: 8382 cost= 0.033940997
```

```
Epoch: 8383 cost= 0.032531913
Epoch: 8384 cost= 0.033049852
Epoch: 8385 cost= 0.034162890
Epoch: 8386 cost= 0.033831682
Epoch: 8387 cost= 0.032625448
Epoch: 8388 cost= 0.032748032
Epoch: 8389 cost= 0.034207840
Epoch: 8390 cost= 0.034764122
Epoch: 8391 cost= 0.035941400
Epoch: 8392 cost= 0.033473048
Epoch: 8393 cost= 0.035840955
Epoch: 8394 cost= 0.033971637
Epoch: 8395 cost= 0.035251830
Epoch: 8396 cost= 0.034390517
Epoch: 8397 cost= 0.033944640
Epoch: 8398 cost= 0.036039427
Epoch: 8399 cost= 0.033433311
Epoch: 8400 cost= 0.033509083
Epoch: 8401 cost= 0.034784820
Epoch: 8402 cost= 0.033282079
Epoch: 8403 cost= 0.034548018
Epoch: 8404 cost= 0.036459148
Epoch: 8405 cost= 0.033681065
Epoch: 8406 cost= 0.034605015
```

```
Epoch: 8407 cost= 0.033607356
Epoch: 8408 cost= 0.034395143
Epoch: 8409 cost= 0.033672694
Epoch: 8410 cost= 0.032420922
Epoch: 8411 cost= 0.033368591
Epoch: 8412 cost= 0.032342762
Epoch: 8413 cost= 0.033233117
Epoch: 8414 cost= 0.032748282
Epoch: 8415 cost= 0.034112219
Epoch: 8416 cost= 0.034561120
Epoch: 8417 cost= 0.033676062
Epoch: 8418 cost= 0.033451688
Epoch: 8419 cost= 0.034305502
Epoch: 8420 cost= 0.035427049
Epoch: 8421 cost= 0.034636360
Epoch: 8422 cost= 0.032436494
Epoch: 8423 cost= 0.033150703
Epoch: 8424 cost= 0.033702347
Epoch: 8425 cost= 0.032462768
Epoch: 8426 cost= 0.033194799
Epoch: 8427 cost= 0.034891911
Epoch: 8428 cost= 0.033596117
Epoch: 8429 cost= 0.032495525
Epoch: 8430 cost= 0.035095435
```

```
Epoch: 8431 cost= 0.034212824
Epoch: 8432 cost= 0.032173414
Epoch: 8433 cost= 0.033678234
Epoch: 8434 cost= 0.034104623
Epoch: 8435 cost= 0.034206696
Epoch: 8436 cost= 0.035987169
Epoch: 8437 cost= 0.034650553
Epoch: 8438 cost= 0.034249187
Epoch: 8439 cost= 0.033493526
Epoch: 8440 cost= 0.035274725
Epoch: 8441 cost= 0.035467461
Epoch: 8442 cost= 0.032654293
Epoch: 8443 cost= 0.035689041
Epoch: 8444 cost= 0.034754440
Epoch: 8445 cost= 0.035919640
Epoch: 8446 cost= 0.034868386
Epoch: 8447 cost= 0.034870245
Epoch: 8448 cost= 0.034946125
Epoch: 8449 cost= 0.034061722
Epoch: 8450 cost= 0.032702226
Epoch: 8451 cost= 0.033991501
Epoch: 8452 cost= 0.032795131
Epoch: 8453 cost= 0.032538641
Epoch: 8454 cost= 0.033619940
```

```
Epoch: 8455 cost= 0.033343315
Epoch: 8456 cost= 0.034421064
Epoch: 8457 cost= 0.033579089
Epoch: 8458 cost= 0.034806222
Epoch: 8459 cost= 0.032617748
Epoch: 8460 cost= 0.031724013
Epoch: 8461 cost= 0.031548548
Epoch: 8462 cost= 0.034116089
Epoch: 8463 cost= 0.034756966
Epoch: 8464 cost= 0.034290485
Epoch: 8465 cost= 0.034226183
Epoch: 8466 cost= 0.032845829
Epoch: 8467 cost= 0.034337007
Epoch: 8468 cost= 0.031691879
Epoch: 8469 cost= 0.033517521
Epoch: 8470 cost= 0.037007511
Epoch: 8471 cost= 0.033594981
Epoch: 8472 cost= 0.036485635
Epoch: 8473 cost= 0.031377573
Epoch: 8474 cost= 0.035078838
Epoch: 8475 cost= 0.034503762
Epoch: 8476 cost= 0.033828963
Epoch: 8477 cost= 0.032411348
Epoch: 8478 cost= 0.034528345
```

```
Epoch: 8479 cost= 0.035097372
Epoch: 8480 cost= 0.032350283
Epoch: 8481 cost= 0.034818031
Epoch: 8482 cost= 0.032962702
Epoch: 8483 cost= 0.032990869
Epoch: 8484 cost= 0.034035999
Epoch: 8485 cost= 0.032627270
Epoch: 8486 cost= 0.032648906
Epoch: 8487 cost= 0.033878833
Epoch: 8488 cost= 0.033874501
Epoch: 8489 cost= 0.034212526
Epoch: 8490 cost= 0.034693755
Epoch: 8491 cost= 0.033351213
Epoch: 8492 cost= 0.037004162
Epoch: 8493 cost= 0.033670310
Epoch: 8494 cost= 0.034919657
Epoch: 8495 cost= 0.033725701
Epoch: 8496 cost= 0.034670942
Epoch: 8497 cost= 0.035495896
Epoch: 8498 cost= 0.034013424
Epoch: 8499 cost= 0.032678656
Epoch: 8500 cost= 0.033832230
Epoch: 8501 cost= 0.034477152
Epoch: 8502 cost= 0.033233345
```

```
Epoch: 8503 cost= 0.032359086
Epoch: 8504 cost= 0.034294944
Epoch: 8505 cost= 0.034091242
Epoch: 8506 cost= 0.035156675
Epoch: 8507 cost= 0.033804242
Epoch: 8508 cost= 0.034363110
Epoch: 8509 cost= 0.033053815
Epoch: 8510 cost= 0.035221152
Epoch: 8511 cost= 0.033817239
Epoch: 8512 cost= 0.035816625
Epoch: 8513 cost= 0.033986557
Epoch: 8514 cost= 0.035826113
Epoch: 8515 cost= 0.035975229
Epoch: 8516 cost= 0.035191771
Epoch: 8517 cost= 0.034773551
Epoch: 8518 cost= 0.033847481
Epoch: 8519 cost= 0.033609182
Epoch: 8520 cost= 0.034420621
Epoch: 8521 cost= 0.033047911
Epoch: 8522 cost= 0.032720134
Epoch: 8523 cost= 0.033739299
Epoch: 8524 cost= 0.035154995
Epoch: 8525 cost= 0.032972656
Epoch: 8526 cost= 0.033668477
```

```
Epoch: 8527 cost= 0.034383196
Epoch: 8528 cost= 0.035127930
Epoch: 8529 cost= 0.033893220
Epoch: 8530 cost= 0.032083895
Epoch: 8531 cost= 0.033270355
Epoch: 8532 cost= 0.035618652
Epoch: 8533 cost= 0.033954017
Epoch: 8534 cost= 0.033960912
Epoch: 8535 cost= 0.032769598
Epoch: 8536 cost= 0.033721864
Epoch: 8537 cost= 0.035229400
Epoch: 8538 cost= 0.033858400
Epoch: 8539 cost= 0.033175424
Epoch: 8540 cost= 0.032468855
Epoch: 8541 cost= 0.034711022
Epoch: 8542 cost= 0.034534629
Epoch: 8543 cost= 0.034283035
Epoch: 8544 cost= 0.032815594
Epoch: 8545 cost= 0.032122884
Epoch: 8546 cost= 0.032908868
Epoch: 8547 cost= 0.033829212
Epoch: 8548 cost= 0.031817600
Epoch: 8549 cost= 0.033109348
Epoch: 8550 cost= 0.032006882
```

```
Epoch: 8551 cost= 0.033353969
Epoch: 8552 cost= 0.033338383
Epoch: 8553 cost= 0.034320138
Epoch: 8554 cost= 0.034939650
Epoch: 8555 cost= 0.033911701
Epoch: 8556 cost= 0.035461079
Epoch: 8557 cost= 0.033022199
Epoch: 8558 cost= 0.033740617
Epoch: 8559 cost= 0.034737527
Epoch: 8560 cost= 0.033468202
Epoch: 8561 cost= 0.033346012
Epoch: 8562 cost= 0.033103183
Epoch: 8563 cost= 0.034898553
Epoch: 8564 cost= 0.032736577
Epoch: 8565 cost= 0.034595188
Epoch: 8566 cost= 0.032481756
Epoch: 8567 cost= 0.031883091
Epoch: 8568 cost= 0.035126410
Epoch: 8569 cost= 0.033128507
Epoch: 8570 cost= 0.034869969
Epoch: 8571 cost= 0.035563868
Epoch: 8572 cost= 0.034636881
Epoch: 8573 cost= 0.034670126
Epoch: 8574 cost= 0.033491790
```

```
Epoch: 8575 cost= 0.033669446
Epoch: 8576 cost= 0.033772323
Epoch: 8577 cost= 0.033500113
Epoch: 8578 cost= 0.031534635
Epoch: 8579 cost= 0.032060131
Epoch: 8580 cost= 0.033807512
Epoch: 8581 cost= 0.032265048
Epoch: 8582 cost= 0.034444019
Epoch: 8583 cost= 0.036354739
Epoch: 8584 cost= 0.034181170
Epoch: 8585 cost= 0.036464032
Epoch: 8586 cost= 0.033034895
Epoch: 8587 cost= 0.034571484
Epoch: 8588 cost= 0.033918880
Epoch: 8589 cost= 0.036279913
Epoch: 8590 cost= 0.035065070
Epoch: 8591 cost= 0.034542337
Epoch: 8592 cost= 0.033829551
Epoch: 8593 cost= 0.033049852
Epoch: 8594 cost= 0.032486700
Epoch: 8595 cost= 0.034209538
Epoch: 8596 cost= 0.033024020
Epoch: 8597 cost= 0.035007410
Epoch: 8598 cost= 0.034665797
```

```
Epoch: 8599 cost= 0.034097798
Epoch: 8600 cost= 0.034146383
Epoch: 8601 cost= 0.035104893
Epoch: 8602 cost= 0.033158228
Epoch: 8603 cost= 0.034095094
Epoch: 8604 cost= 0.033571783
Epoch: 8605 cost= 0.033206180
Epoch: 8606 cost= 0.035077784
Epoch: 8607 cost= 0.034061987
Epoch: 8608 cost= 0.033571869
Epoch: 8609 cost= 0.032058567
Epoch: 8610 cost= 0.033253677
Epoch: 8611 cost= 0.035050519
Epoch: 8612 cost= 0.033847433
Epoch: 8613 cost= 0.034894090
Epoch: 8614 cost= 0.032966379
Epoch: 8615 cost= 0.034167025
Epoch: 8616 cost= 0.033051543
Epoch: 8617 cost= 0.033977240
Epoch: 8618 cost= 0.034483094
Epoch: 8619 cost= 0.033562493
Epoch: 8620 cost= 0.033807296
Epoch: 8621 cost= 0.033445630
Epoch: 8622 cost= 0.033290621
```

```
Epoch: 8623 cost= 0.035647880
Epoch: 8624 cost= 0.034955233
Epoch: 8625 cost= 0.033829454
Epoch: 8626 cost= 0.032594882
Epoch: 8627 cost= 0.034162182
Epoch: 8628 cost= 0.032409988
Epoch: 8629 cost= 0.034537535
Epoch: 8630 cost= 0.032273758
Epoch: 8631 cost= 0.034698233
Epoch: 8632 cost= 0.033881802
Epoch: 8633 cost= 0.033719730
Epoch: 8634 cost= 0.033843707
Epoch: 8635 cost= 0.032159284
Epoch: 8636 cost= 0.032605335
Epoch: 8637 cost= 0.033057448
Epoch: 8638 cost= 0.032927573
Epoch: 8639 cost= 0.032998580
Epoch: 8640 cost= 0.034943890
Epoch: 8641 cost= 0.033727948
Epoch: 8642 cost= 0.032243852
Epoch: 8643 cost= 0.035533667
Epoch: 8644 cost= 0.032473620
Epoch: 8645 cost= 0.033542424
Epoch: 8646 cost= 0.033312887
```

```
Epoch: 8647 cost= 0.036063462
Epoch: 8648 cost= 0.034162294
Epoch: 8649 cost= 0.033928931
Epoch: 8650 cost= 0.033099718
Epoch: 8651 cost= 0.033330668
Epoch: 8652 cost= 0.032221682
Epoch: 8653 cost= 0.034496978
Epoch: 8654 cost= 0.034011886
Epoch: 8655 cost= 0.033090767
Epoch: 8656 cost= 0.033059344
Epoch: 8657 cost= 0.033764429
Epoch: 8658 cost= 0.033663798
Epoch: 8659 cost= 0.034385744
Epoch: 8660 cost= 0.033687573
Epoch: 8661 cost= 0.032847617
Epoch: 8662 cost= 0.033820655
Epoch: 8663 cost= 0.035197161
Epoch: 8664 cost= 0.036660921
Epoch: 8665 cost= 0.032300487
Epoch: 8666 cost= 0.032515276
Epoch: 8667 cost= 0.032614771
Epoch: 8668 cost= 0.033584677
Epoch: 8669 cost= 0.032290120
Epoch: 8670 cost= 0.032650515
```

```
Epoch: 8671 cost= 0.034716852
Epoch: 8672 cost= 0.032587301
Epoch: 8673 cost= 0.033436965
Epoch: 8674 cost= 0.034123208
Epoch: 8675 cost= 0.035876717
Epoch: 8676 cost= 0.035665233
Epoch: 8677 cost= 0.033677343
Epoch: 8678 cost= 0.033900537
Epoch: 8679 cost= 0.033362415
Epoch: 8680 cost= 0.034844398
Epoch: 8681 cost= 0.033437505
Epoch: 8682 cost= 0.032372475
Epoch: 8683 cost= 0.034464635
Epoch: 8684 cost= 0.034803405
Epoch: 8685 cost= 0.034251723
Epoch: 8686 cost= 0.036056966
Epoch: 8687 cost= 0.034366619
Epoch: 8688 cost= 0.032676984
Epoch: 8689 cost= 0.032456975
Epoch: 8690 cost= 0.033309318
Epoch: 8691 cost= 0.032955319
Epoch: 8692 cost= 0.033063386
Epoch: 8693 cost= 0.034217712
Epoch: 8694 cost= 0.033978697
```

```
Epoch: 8695 cost= 0.034087557
Epoch: 8696 cost= 0.033212427
Epoch: 8697 cost= 0.033648245
Epoch: 8698 cost= 0.034114357
Epoch: 8699 cost= 0.035420388
Epoch: 8700 cost= 0.033485726
Epoch: 8701 cost= 0.034217544
Epoch: 8702 cost= 0.036431357
Epoch: 8703 cost= 0.034449562
Epoch: 8704 cost= 0.034775265
Epoch: 8705 cost= 0.033190314
Epoch: 8706 cost= 0.036566943
Epoch: 8707 cost= 0.034263737
Epoch: 8708 cost= 0.033916462
Epoch: 8709 cost= 0.032873191
Epoch: 8710 cost= 0.034087166
Epoch: 8711 cost= 0.031955287
Epoch: 8712 cost= 0.034187868
Epoch: 8713 cost= 0.035594746
Epoch: 8714 cost= 0.033413120
Epoch: 8715 cost= 0.036212545
Epoch: 8716 cost= 0.031825148
Epoch: 8717 cost= 0.034914438
Epoch: 8718 cost= 0.033244498
```

```
Epoch: 8719 cost= 0.033711560
Epoch: 8720 cost= 0.034214634
Epoch: 8721 cost= 0.032305621
Epoch: 8722 cost= 0.033699244
Epoch: 8723 cost= 0.035580426
Epoch: 8724 cost= 0.033677083
Epoch: 8725 cost= 0.034149740
Epoch: 8726 cost= 0.035236057
Epoch: 8727 cost= 0.035425477
Epoch: 8728 cost= 0.036213078
Epoch: 8729 cost= 0.033993628
Epoch: 8730 cost= 0.032756008
Epoch: 8731 cost= 0.032161932
Epoch: 8732 cost= 0.033902615
Epoch: 8733 cost= 0.035918999
Epoch: 8734 cost= 0.034808606
Epoch: 8735 cost= 0.032935921
Epoch: 8736 cost= 0.035892807
Epoch: 8737 cost= 0.033272769
Epoch: 8738 cost= 0.031552728
Epoch: 8739 cost= 0.035140280
Epoch: 8740 cost= 0.033831980
Epoch: 8741 cost= 0.033767808
Epoch: 8742 cost= 0.034604363
```

```
Epoch: 8743 cost= 0.034458753
Epoch: 8744 cost= 0.035218410
Epoch: 8745 cost= 0.032930575
Epoch: 8746 cost= 0.033767540
Epoch: 8747 cost= 0.034685649
Epoch: 8748 cost= 0.034442913
Epoch: 8749 cost= 0.032298241
Epoch: 8750 cost= 0.031605057
Epoch: 8751 cost= 0.033568695
Epoch: 8752 cost= 0.033461273
Epoch: 8753 cost= 0.033649236
Epoch: 8754 cost= 0.036072765
Epoch: 8755 cost= 0.033351846
Epoch: 8756 cost= 0.033747517
Epoch: 8757 cost= 0.034341972
Epoch: 8758 cost= 0.035075501
Epoch: 8759 cost= 0.035048820
Epoch: 8760 cost= 0.034315962
Epoch: 8761 cost= 0.034747351
Epoch: 8762 cost= 0.033106729
Epoch: 8763 cost= 0.032775622
Epoch: 8764 cost= 0.033209469
Epoch: 8765 cost= 0.033685856
Epoch: 8766 cost= 0.032493930
```

```
Epoch: 8767 cost= 0.033094164
Epoch: 8768 cost= 0.033763621
Epoch: 8769 cost= 0.033306345
Epoch: 8770 cost= 0.033059984
Epoch: 8771 cost= 0.034494020
Epoch: 8772 cost= 0.031954449
Epoch: 8773 cost= 0.034269217
Epoch: 8774 cost= 0.034493029
Epoch: 8775 cost= 0.033259250
Epoch: 8776 cost= 0.033394985
Epoch: 8777 cost= 0.034402467
Epoch: 8778 cost= 0.033416305
Epoch: 8779 cost= 0.034383815
Epoch: 8780 cost= 0.034907743
Epoch: 8781 cost= 0.035676628
Epoch: 8782 cost= 0.033187240
Epoch: 8783 cost= 0.034885388
Epoch: 8784 cost= 0.033329915
Epoch: 8785 cost= 0.034527365
Epoch: 8786 cost= 0.033345122
Epoch: 8787 cost= 0.033693157
Epoch: 8788 cost= 0.035367422
Epoch: 8789 cost= 0.032489717
Epoch: 8790 cost= 0.034198701
```

```
Epoch: 8791 cost= 0.034994829
Epoch: 8792 cost= 0.032724664
Epoch: 8793 cost= 0.033030838
Epoch: 8794 cost= 0.032995999
Epoch: 8795 cost= 0.032266710
Epoch: 8796 cost= 0.036034245
Epoch: 8797 cost= 0.034016833
Epoch: 8798 cost= 0.034128152
Epoch: 8799 cost= 0.031534109
Epoch: 8800 cost= 0.030680876
Epoch: 8801 cost= 0.034141701
Epoch: 8802 cost= 0.033680771
Epoch: 8803 cost= 0.035685077
Epoch: 8804 cost= 0.033944938
Epoch: 8805 cost= 0.034263551
Epoch: 8806 cost= 0.034655750
Epoch: 8807 cost= 0.034873158
Epoch: 8808 cost= 0.033235792
Epoch: 8809 cost= 0.032872565
Epoch: 8810 cost= 0.033780172
Epoch: 8811 cost= 0.032643098
Epoch: 8812 cost= 0.030889377
Epoch: 8813 cost= 0.034366876
Epoch: 8814 cost= 0.034938507
```

```
Epoch: 8815 cost= 0.032762516
Epoch: 8816 cost= 0.032683201
Epoch: 8817 cost= 0.032007482
Epoch: 8818 cost= 0.035361096
Epoch: 8819 cost= 0.032510072
Epoch: 8820 cost= 0.031081025
Epoch: 8821 cost= 0.033153336
Epoch: 8822 cost= 0.033053156
Epoch: 8823 cost= 0.033528998
Epoch: 8824 cost= 0.035844885
Epoch: 8825 cost= 0.035039332
Epoch: 8826 cost= 0.033023797
Epoch: 8827 cost= 0.034061722
Epoch: 8828 cost= 0.033786532
Epoch: 8829 cost= 0.035467997
Epoch: 8830 cost= 0.035035957
Epoch: 8831 cost= 0.033922214
Epoch: 8832 cost= 0.033140544
Epoch: 8833 cost= 0.033242188
Epoch: 8834 cost= 0.035358146
Epoch: 8835 cost= 0.034486905
Epoch: 8836 cost= 0.035759494
Epoch: 8837 cost= 0.033371143
Epoch: 8838 cost= 0.034127437
```

```
Epoch: 8839 cost= 0.034467403
Epoch: 8840 cost= 0.031838946
Epoch: 8841 cost= 0.036210336
Epoch: 8842 cost= 0.033891197
Epoch: 8843 cost= 0.033647865
Epoch: 8844 cost= 0.032369148
Epoch: 8845 cost= 0.032539941
Epoch: 8846 cost= 0.033749472
Epoch: 8847 cost= 0.034748606
Epoch: 8848 cost= 0.033181474
Epoch: 8849 cost= 0.034200631
Epoch: 8850 cost= 0.034283113
Epoch: 8851 cost= 0.032852914
Epoch: 8852 cost= 0.032335777
Epoch: 8853 cost= 0.032982659
Epoch: 8854 cost= 0.031346370
Epoch: 8855 cost= 0.033754200
Epoch: 8856 cost= 0.032168239
Epoch: 8857 cost= 0.033789169
Epoch: 8858 cost= 0.034602549
Epoch: 8859 cost= 0.032749817
Epoch: 8860 cost= 0.032752804
Epoch: 8861 cost= 0.035379354
Epoch: 8862 cost= 0.034516685
```

```
Epoch: 8863 cost= 0.033775836
Epoch: 8864 cost= 0.033947308
Epoch: 8865 cost= 0.035417147
Epoch: 8866 cost= 0.034390856
Epoch: 8867 cost= 0.033981621
Epoch: 8868 cost= 0.035419945
Epoch: 8869 cost= 0.034216035
Epoch: 8870 cost= 0.033862308
Epoch: 8871 cost= 0.033037022
Epoch: 8872 cost= 0.033510722
Epoch: 8873 cost= 0.034858413
Epoch: 8874 cost= 0.032490186
Epoch: 8875 cost= 0.035000801
Epoch: 8876 cost= 0.033931490
Epoch: 8877 cost= 0.035868328
Epoch: 8878 cost= 0.033317562
Epoch: 8879 cost= 0.033260081
Epoch: 8880 cost= 0.033765178
Epoch: 8881 cost= 0.035606969
Epoch: 8882 cost= 0.033899456
Epoch: 8883 cost= 0.032425925
Epoch: 8884 cost= 0.033001810
Epoch: 8885 cost= 0.032583714
Epoch: 8886 cost= 0.033146244
```

```
Epoch: 8887 cost= 0.033750024
Epoch: 8888 cost= 0.033885196
Epoch: 8889 cost= 0.031815603
Epoch: 8890 cost= 0.033669759
Epoch: 8891 cost= 0.034738753
Epoch: 8892 cost= 0.034355137
Epoch: 8893 cost= 0.031346988
Epoch: 8894 cost= 0.034694415
Epoch: 8895 cost= 0.033935387
Epoch: 8896 cost= 0.033118725
Epoch: 8897 cost= 0.034075703
Epoch: 8898 cost= 0.033957627
Epoch: 8899 cost= 0.034235466
Epoch: 8900 cost= 0.033653073
Epoch: 8901 cost= 0.033026513
Epoch: 8902 cost= 0.033349894
Epoch: 8903 cost= 0.033220757
Epoch: 8904 cost= 0.034790482
Epoch: 8905 cost= 0.034769412
Epoch: 8906 cost= 0.032482333
Epoch: 8907 cost= 0.033624072
Epoch: 8908 cost= 0.033176459
Epoch: 8909 cost= 0.033032835
Epoch: 8910 cost= 0.033535618
```

```
Epoch: 8911 cost= 0.035834111
Epoch: 8912 cost= 0.032523930
Epoch: 8913 cost= 0.034588493
Epoch: 8914 cost= 0.031343013
Epoch: 8915 cost= 0.035523839
Epoch: 8916 cost= 0.033808324
Epoch: 8917 cost= 0.034974787
Epoch: 8918 cost= 0.032822374
Epoch: 8919 cost= 0.034181774
Epoch: 8920 cost= 0.035542246
Epoch: 8921 cost= 0.035075411
Epoch: 8922 cost= 0.035276368
Epoch: 8923 cost= 0.034778759
Epoch: 8924 cost= 0.033298522
Epoch: 8925 cost= 0.033777855
Epoch: 8926 cost= 0.030903745
Epoch: 8927 cost= 0.034575518
Epoch: 8928 cost= 0.033531033
Epoch: 8929 cost= 0.033221580
Epoch: 8930 cost= 0.032992423
Epoch: 8931 cost= 0.035027474
Epoch: 8932 cost= 0.032402162
Epoch: 8933 cost= 0.034015156
Epoch: 8934 cost= 0.034270331
```

```
Epoch: 8935 cost= 0.033177514
Epoch: 8936 cost= 0.032737069
Epoch: 8937 cost= 0.035975941
Epoch: 8938 cost= 0.035006646
Epoch: 8939 cost= 0.033276379
Epoch: 8940 cost= 0.033888374
Epoch: 8941 cost= 0.035505205
Epoch: 8942 cost= 0.034899559
Epoch: 8943 cost= 0.035745069
Epoch: 8944 cost= 0.033402115
Epoch: 8945 cost= 0.033510525
Epoch: 8946 cost= 0.034874856
Epoch: 8947 cost= 0.032384750
Epoch: 8948 cost= 0.033379354
Epoch: 8949 cost= 0.033946380
Epoch: 8950 cost= 0.033719607
Epoch: 8951 cost= 0.033862688
Epoch: 8952 cost= 0.033209264
Epoch: 8953 cost= 0.033616606
Epoch: 8954 cost= 0.034590386
Epoch: 8955 cost= 0.033613909
Epoch: 8956 cost= 0.034836199
Epoch: 8957 cost= 0.033755958
Epoch: 8958 cost= 0.031719681
```

```
Epoch: 8959 cost= 0.037260156
Epoch: 8960 cost= 0.034595422
Epoch: 8961 cost= 0.032721456
Epoch: 8962 cost= 0.033566598
Epoch: 8963 cost= 0.033857774
Epoch: 8964 cost= 0.034091398
Epoch: 8965 cost= 0.033820871
Epoch: 8966 cost= 0.034399085
Epoch: 8967 cost= 0.034539443
Epoch: 8968 cost= 0.033804961
Epoch: 8969 cost= 0.033192247
Epoch: 8970 cost= 0.032657210
Epoch: 8971 cost= 0.034885835
Epoch: 8972 cost= 0.033791259
Epoch: 8973 cost= 0.032917932
Epoch: 8974 cost= 0.032430597
Epoch: 8975 cost= 0.035083022
Epoch: 8976 cost= 0.034340125
Epoch: 8977 cost= 0.034642018
Epoch: 8978 cost= 0.032699600
Epoch: 8979 cost= 0.035546467
Epoch: 8980 cost= 0.034232683
Epoch: 8981 cost= 0.033410944
Epoch: 8982 cost= 0.032174084
```

```
Epoch: 8983 cost= 0.033703897
Epoch: 8984 cost= 0.035684295
Epoch: 8985 cost= 0.034596279
Epoch: 8986 cost= 0.032635186
Epoch: 8987 cost= 0.033573814
Epoch: 8988 cost= 0.034066513
Epoch: 8989 cost= 0.032575391
Epoch: 8990 cost= 0.032883160
Epoch: 8991 cost= 0.034125477
Epoch: 8992 cost= 0.034274757
Epoch: 8993 cost= 0.033429228
Epoch: 8994 cost= 0.035343453
Epoch: 8995 cost= 0.034323685
Epoch: 8996 cost= 0.034391034
Epoch: 8997 cost= 0.032353994
Epoch: 8998 cost= 0.034718834
Epoch: 8999 cost= 0.032513700
Epoch: 9000 cost= 0.033615250
Epoch: 9001 cost= 0.035500370
Epoch: 9002 cost= 0.033235297
Epoch: 9003 cost= 0.034387957
Epoch: 9004 cost= 0.032177676
Epoch: 9005 cost= 0.034505956
Epoch: 9006 cost= 0.033830974
```

```
Epoch: 9007 cost= 0.030901652
Epoch: 9008 cost= 0.035738233
Epoch: 9009 cost= 0.035269249
Epoch: 9010 cost= 0.032785628
Epoch: 9011 cost= 0.035196289
Epoch: 9012 cost= 0.034198392
Epoch: 9013 cost= 0.033948261
Epoch: 9014 cost= 0.033712871
Epoch: 9015 cost= 0.033951074
Epoch: 9016 cost= 0.034360155
Epoch: 9017 cost= 0.033107858
Epoch: 9018 cost= 0.033355314
Epoch: 9019 cost= 0.034947414
Epoch: 9020 cost= 0.035362121
Epoch: 9021 cost= 0.031106384
Epoch: 9022 cost= 0.034139708
Epoch: 9023 cost= 0.034376100
Epoch: 9024 cost= 0.032095872
Epoch: 9025 cost= 0.033963874
Epoch: 9026 cost= 0.033379432
Epoch: 9027 cost= 0.031123171
Epoch: 9028 cost= 0.035012670
Epoch: 9029 cost= 0.033665098
Epoch: 9030 cost= 0.036192112
```

```
Epoch: 9031 cost= 0.034905992
Epoch: 9032 cost= 0.033242572
Epoch: 9033 cost= 0.031419486
Epoch: 9034 cost= 0.035434909
Epoch: 9035 cost= 0.033560373
Epoch: 9036 cost= 0.032647647
Epoch: 9037 cost= 0.032699566
Epoch: 9038 cost= 0.033364616
Epoch: 9039 cost= 0.033159275
Epoch: 9040 cost= 0.035546426
Epoch: 9041 cost= 0.033602223
Epoch: 9042 cost= 0.033457413
Epoch: 9043 cost= 0.032223850
Epoch: 9044 cost= 0.035738550
Epoch: 9045 cost= 0.031823695
Epoch: 9046 cost= 0.033895541
Epoch: 9047 cost= 0.033560440
Epoch: 9048 cost= 0.031738970
Epoch: 9049 cost= 0.032494184
Epoch: 9050 cost= 0.035162907
Epoch: 9051 cost= 0.033937551
Epoch: 9052 cost= 0.032443207
Epoch: 9053 cost= 0.034729928
Epoch: 9054 cost= 0.033718478
```

```
Epoch: 9055 cost= 0.032699775
Epoch: 9056 cost= 0.035250302
Epoch: 9057 cost= 0.032493860
Epoch: 9058 cost= 0.034670815
Epoch: 9059 cost= 0.034240726
Epoch: 9060 cost= 0.034482960
Epoch: 9061 cost= 0.032976553
Epoch: 9062 cost= 0.034493763
Epoch: 9063 cost= 0.035648614
Epoch: 9064 cost= 0.033787217
Epoch: 9065 cost= 0.034434225
Epoch: 9066 cost= 0.033421807
Epoch: 9067 cost= 0.035506692
Epoch: 9068 cost= 0.033939332
Epoch: 9069 cost= 0.033577632
Epoch: 9070 cost= 0.034100559
Epoch: 9071 cost= 0.033211179
Epoch: 9072 cost= 0.033832524
Epoch: 9073 cost= 0.034789950
Epoch: 9074 cost= 0.032621212
Epoch: 9075 cost= 0.035370506
Epoch: 9076 cost= 0.031527944
Epoch: 9077 cost= 0.034977563
Epoch: 9078 cost= 0.033156525
```

```
Epoch: 9079 cost= 0.032186043
Epoch: 9080 cost= 0.034219101
Epoch: 9081 cost= 0.033949666
Epoch: 9082 cost= 0.034766056
Epoch: 9083 cost= 0.030590726
Epoch: 9084 cost= 0.033254322
Epoch: 9085 cost= 0.034570295
Epoch: 9086 cost= 0.033834487
Epoch: 9087 cost= 0.034274891
Epoch: 9088 cost= 0.034111563
Epoch: 9089 cost= 0.032323081
Epoch: 9090 cost= 0.032836948
Epoch: 9091 cost= 0.033658396
Epoch: 9092 cost= 0.033977624
Epoch: 9093 cost= 0.034158602
Epoch: 9094 cost= 0.034056313
Epoch: 9095 cost= 0.035601266
Epoch: 9096 cost= 0.033356857
Epoch: 9097 cost= 0.033136375
Epoch: 9098 cost= 0.033035215
Epoch: 9099 cost= 0.033525124
Epoch: 9100 cost= 0.035261083
Epoch: 9101 cost= 0.033590760
Epoch: 9102 cost= 0.034615401
```

```
Epoch: 9103 cost= 0.033757530
Epoch: 9104 cost= 0.033614535
Epoch: 9105 cost= 0.033571053
Epoch: 9106 cost= 0.034266498
Epoch: 9107 cost= 0.031084880
Epoch: 9108 cost= 0.033963080
Epoch: 9109 cost= 0.033571400
Epoch: 9110 cost= 0.030791497
Epoch: 9111 cost= 0.033842470
Epoch: 9112 cost= 0.032476701
Epoch: 9113 cost= 0.033235818
Epoch: 9114 cost= 0.035161793
Epoch: 9115 cost= 0.034768436
Epoch: 9116 cost= 0.033344336
Epoch: 9117 cost= 0.032536205
Epoch: 9118 cost= 0.034190606
Epoch: 9119 cost= 0.032370821
Epoch: 9120 cost= 0.034950502
Epoch: 9121 cost= 0.034474913
Epoch: 9122 cost= 0.033795081
Epoch: 9123 cost= 0.035438668
Epoch: 9124 cost= 0.033942454
Epoch: 9125 cost= 0.032984991
Epoch: 9126 cost= 0.034579013
```

```
Epoch: 9127 cost= 0.034000322
Epoch: 9128 cost= 0.033349488
Epoch: 9129 cost= 0.033086229
Epoch: 9130 cost= 0.034558427
Epoch: 9131 cost= 0.035218447
Epoch: 9132 cost= 0.032893743
Epoch: 9133 cost= 0.034649007
Epoch: 9134 cost= 0.031397361
Epoch: 9135 cost= 0.035123441
Epoch: 9136 cost= 0.032867812
Epoch: 9137 cost= 0.034107514
Epoch: 9138 cost= 0.032854751
Epoch: 9139 cost= 0.031747762
Epoch: 9140 cost= 0.032968536
Epoch: 9141 cost= 0.033464126
Epoch: 9142 cost= 0.033336561
Epoch: 9143 cost= 0.032816626
Epoch: 9144 cost= 0.033103477
Epoch: 9145 cost= 0.036483128
Epoch: 9146 cost= 0.033290248
Epoch: 9147 cost= 0.033817708
Epoch: 9148 cost= 0.033032898
Epoch: 9149 cost= 0.033114627
Epoch: 9150 cost= 0.033124633
```

```
Epoch: 9151 cost= 0.034607995
Epoch: 9152 cost= 0.033157893
Epoch: 9153 cost= 0.032803353
Epoch: 9154 cost= 0.033885892
Epoch: 9155 cost= 0.034372378
Epoch: 9156 cost= 0.033628289
Epoch: 9157 cost= 0.034461670
Epoch: 9158 cost= 0.036403086
Epoch: 9159 cost= 0.034219183
Epoch: 9160 cost= 0.036044974
Epoch: 9161 cost= 0.034049585
Epoch: 9162 cost= 0.034450226
Epoch: 9163 cost= 0.033327226
Epoch: 9164 cost= 0.036406435
Epoch: 9165 cost= 0.034565993
Epoch: 9166 cost= 0.035065856
Epoch: 9167 cost= 0.035415322
Epoch: 9168 cost= 0.032793257
Epoch: 9169 cost= 0.032197580
Epoch: 9170 cost= 0.032827299
Epoch: 9171 cost= 0.032617655
Epoch: 9172 cost= 0.034200642
Epoch: 9173 cost= 0.032443535
Epoch: 9174 cost= 0.033096224
```

```
Epoch: 9175 cost= 0.034313772
Epoch: 9176 cost= 0.032347053
Epoch: 9177 cost= 0.033655066
Epoch: 9178 cost= 0.033930216
Epoch: 9179 cost= 0.033599753
Epoch: 9180 cost= 0.033037074
Epoch: 9181 cost= 0.034604654
Epoch: 9182 cost= 0.033047248
Epoch: 9183 cost= 0.033429291
Epoch: 9184 cost= 0.033441231
Epoch: 9185 cost= 0.033858616
Epoch: 9186 cost= 0.035050742
Epoch: 9187 cost= 0.035190713
Epoch: 9188 cost= 0.033886611
Epoch: 9189 cost= 0.034082752
Epoch: 9190 cost= 0.032168604
Epoch: 9191 cost= 0.033380598
Epoch: 9192 cost= 0.031768493
Epoch: 9193 cost= 0.033989459
Epoch: 9194 cost= 0.033490527
Epoch: 9195 cost= 0.035386723
Epoch: 9196 cost= 0.034763642
Epoch: 9197 cost= 0.035020575
Epoch: 9198 cost= 0.032123562
```

```
Epoch: 9199 cost= 0.035796016
Epoch: 9200 cost= 0.035906654
Epoch: 9201 cost= 0.033854261
Epoch: 9202 cost= 0.034352284
Epoch: 9203 cost= 0.034619819
Epoch: 9204 cost= 0.034656197
Epoch: 9205 cost= 0.034570966
Epoch: 9206 cost= 0.033659048
Epoch: 9207 cost= 0.035752475
Epoch: 9208 cost= 0.033318650
Epoch: 9209 cost= 0.033638924
Epoch: 9210 cost= 0.032947384
Epoch: 9211 cost= 0.035014838
Epoch: 9212 cost= 0.033300228
Epoch: 9213 cost= 0.034928545
Epoch: 9214 cost= 0.034945175
Epoch: 9215 cost= 0.033468332
Epoch: 9216 cost= 0.031815350
Epoch: 9217 cost= 0.033129439
Epoch: 9218 cost= 0.032766767
Epoch: 9219 cost= 0.034194592
Epoch: 9220 cost= 0.033891246
Epoch: 9221 cost= 0.037093110
Epoch: 9222 cost= 0.034068044
```

```
Epoch: 9223 cost= 0.031942349
Epoch: 9224 cost= 0.033533402
Epoch: 9225 cost= 0.033371825
Epoch: 9226 cost= 0.033193789
Epoch: 9227 cost= 0.033204060
Epoch: 9228 cost= 0.033119984
Epoch: 9229 cost= 0.032188199
Epoch: 9230 cost= 0.033047117
Epoch: 9231 cost= 0.034286894
Epoch: 9232 cost= 0.032802626
Epoch: 9233 cost= 0.033654314
Epoch: 9234 cost= 0.032276731
Epoch: 9235 cost= 0.033454638
Epoch: 9236 cost= 0.036011234
Epoch: 9237 cost= 0.035760544
Epoch: 9238 cost= 0.033901043
Epoch: 9239 cost= 0.035041980
Epoch: 9240 cost= 0.033903271
Epoch: 9241 cost= 0.034794301
Epoch: 9242 cost= 0.035147540
Epoch: 9243 cost= 0.032837640
Epoch: 9244 cost= 0.033799559
Epoch: 9245 cost= 0.033217326
Epoch: 9246 cost= 0.033741437
```

```
Epoch: 9247 cost= 0.032385331
Epoch: 9248 cost= 0.033844270
Epoch: 9249 cost= 0.033463322
Epoch: 9250 cost= 0.033638209
Epoch: 9251 cost= 0.033859618
Epoch: 9252 cost= 0.034235459
Epoch: 9253 cost= 0.032571971
Epoch: 9254 cost= 0.036793284
Epoch: 9255 cost= 0.032062829
Epoch: 9256 cost= 0.033649698
Epoch: 9257 cost= 0.034369152
Epoch: 9258 cost= 0.035101812
Epoch: 9259 cost= 0.035403725
Epoch: 9260 cost= 0.031621352
Epoch: 9261 cost= 0.033846840
Epoch: 9262 cost= 0.033082061
Epoch: 9263 cost= 0.034048609
Epoch: 9264 cost= 0.034124475
Epoch: 9265 cost= 0.033679441
Epoch: 9266 cost= 0.032665662
Epoch: 9267 cost= 0.034122512
Epoch: 9268 cost= 0.034413978
Epoch: 9269 cost= 0.032064982
Epoch: 9270 cost= 0.033454943
```

```
Epoch: 9271 cost= 0.035043065
Epoch: 9272 cost= 0.033680536
Epoch: 9273 cost= 0.032910302
Epoch: 9274 cost= 0.032756712
Epoch: 9275 cost= 0.033078577
Epoch: 9276 cost= 0.034872897
Epoch: 9277 cost= 0.033476729
Epoch: 9278 cost= 0.033500083
Epoch: 9279 cost= 0.033394102
Epoch: 9280 cost= 0.033782352
Epoch: 9281 cost= 0.033167411
Epoch: 9282 cost= 0.035081256
Epoch: 9283 cost= 0.031409163
Epoch: 9284 cost= 0.033211209
Epoch: 9285 cost= 0.034500118
Epoch: 9286 cost= 0.036882013
Epoch: 9287 cost= 0.033570915
Epoch: 9288 cost= 0.032616388
Epoch: 9289 cost= 0.034663755
Epoch: 9290 cost= 0.034579340
Epoch: 9291 cost= 0.033230126
Epoch: 9292 cost= 0.034173347
Epoch: 9293 cost= 0.035150133
Epoch: 9294 cost= 0.034415301
```

```
Epoch: 9295 cost= 0.034057874
Epoch: 9296 cost= 0.036483984
Epoch: 9297 cost= 0.034162264
Epoch: 9298 cost= 0.033240713
Epoch: 9299 cost= 0.033600293
Epoch: 9300 cost= 0.033864766
Epoch: 9301 cost= 0.032817576
Epoch: 9302 cost= 0.033957988
Epoch: 9303 cost= 0.034496829
Epoch: 9304 cost= 0.032699876
Epoch: 9305 cost= 0.036570124
Epoch: 9306 cost= 0.034819797
Epoch: 9307 cost= 0.033720098
Epoch: 9308 cost= 0.034501921
Epoch: 9309 cost= 0.032416776
Epoch: 9310 cost= 0.034011494
Epoch: 9311 cost= 0.033091921
Epoch: 9312 cost= 0.033322860
Epoch: 9313 cost= 0.032844324
Epoch: 9314 cost= 0.033884443
Epoch: 9315 cost= 0.033091910
Epoch: 9316 cost= 0.032784626
Epoch: 9317 cost= 0.034361549
Epoch: 9318 cost= 0.034230024
```

```
Epoch: 9319 cost= 0.033908091
Epoch: 9320 cost= 0.033438187
Epoch: 9321 cost= 0.033895507
Epoch: 9322 cost= 0.036132298
Epoch: 9323 cost= 0.033943225
Epoch: 9324 cost= 0.033440311
Epoch: 9325 cost= 0.035121538
Epoch: 9326 cost= 0.033848360
Epoch: 9327 cost= 0.034132306
Epoch: 9328 cost= 0.032634776
Epoch: 9329 cost= 0.032182805
Epoch: 9330 cost= 0.032918323
Epoch: 9331 cost= 0.033183839
Epoch: 9332 cost= 0.034668386
Epoch: 9333 cost= 0.034103341
Epoch: 9334 cost= 0.034009285
Epoch: 9335 cost= 0.032915302
Epoch: 9336 cost= 0.032983202
Epoch: 9337 cost= 0.034726813
Epoch: 9338 cost= 0.033680189
Epoch: 9339 cost= 0.035390753
Epoch: 9340 cost= 0.033757359
Epoch: 9341 cost= 0.033816334
Epoch: 9342 cost= 0.034315471
```

```
Epoch: 9343 cost= 0.034278538
Epoch: 9344 cost= 0.033720300
Epoch: 9345 cost= 0.031912226
Epoch: 9346 cost= 0.036299035
Epoch: 9347 cost= 0.032879148
Epoch: 9348 cost= 0.033173367
Epoch: 9349 cost= 0.033866230
Epoch: 9350 cost= 0.033952989
Epoch: 9351 cost= 0.033923976
Epoch: 9352 cost= 0.035773464
Epoch: 9353 cost= 0.033984721
Epoch: 9354 cost= 0.031561229
Epoch: 9355 cost= 0.033005964
Epoch: 9356 cost= 0.034301158
Epoch: 9357 cost= 0.033263426
Epoch: 9358 cost= 0.035379682
Epoch: 9359 cost= 0.033908483
Epoch: 9360 cost= 0.035237532
Epoch: 9361 cost= 0.034287110
Epoch: 9362 cost= 0.034659989
Epoch: 9363 cost= 0.032839071
Epoch: 9364 cost= 0.034247637
Epoch: 9365 cost= 0.034018543
Epoch: 9366 cost= 0.033333056
```

```
Epoch: 9367 cost= 0.033634715
Epoch: 9368 cost= 0.032971155
Epoch: 9369 cost= 0.033102699
Epoch: 9370 cost= 0.033626020
Epoch: 9371 cost= 0.033931047
Epoch: 9372 cost= 0.036157634
Epoch: 9373 cost= 0.033884764
Epoch: 9374 cost= 0.035687156
Epoch: 9375 cost= 0.032778196
Epoch: 9376 cost= 0.033324845
Epoch: 9377 cost= 0.032229356
Epoch: 9378 cost= 0.030748598
Epoch: 9379 cost= 0.033210229
Epoch: 9380 cost= 0.033176333
Epoch: 9381 cost= 0.032595504
Epoch: 9382 cost= 0.032889754
Epoch: 9383 cost= 0.032915499
Epoch: 9384 cost= 0.033586092
Epoch: 9385 cost= 0.033825070
Epoch: 9386 cost= 0.035005096
Epoch: 9387 cost= 0.033346228
Epoch: 9388 cost= 0.034657795
Epoch: 9389 cost= 0.034705307
Epoch: 9390 cost= 0.035292361
```

```
Epoch: 9391 cost= 0.035096157
Epoch: 9392 cost= 0.033303369
Epoch: 9393 cost= 0.035459675
Epoch: 9394 cost= 0.035246134
Epoch: 9395 cost= 0.034600768
Epoch: 9396 cost= 0.034899525
Epoch: 9397 cost= 0.031884857
Epoch: 9398 cost= 0.036059011
Epoch: 9399 cost= 0.036089458
Epoch: 9400 cost= 0.034379967
Epoch: 9401 cost= 0.033512939
Epoch: 9402 cost= 0.035696518
Epoch: 9403 cost= 0.034377664
Epoch: 9404 cost= 0.035143610
Epoch: 9405 cost= 0.033675905
Epoch: 9406 cost= 0.033704519
Epoch: 9407 cost= 0.032877762
Epoch: 9408 cost= 0.034376301
Epoch: 9409 cost= 0.034769412
Epoch: 9410 cost= 0.036677215
Epoch: 9411 cost= 0.032897901
Epoch: 9412 cost= 0.034953184
Epoch: 9413 cost= 0.035760526
Epoch: 9414 cost= 0.032301351
```

```
Epoch: 9415 cost= 0.034743115
Epoch: 9416 cost= 0.033612490
Epoch: 9417 cost= 0.033352550
Epoch: 9418 cost= 0.034910802
Epoch: 9419 cost= 0.034564067
Epoch: 9420 cost= 0.035382703
Epoch: 9421 cost= 0.035297982
Epoch: 9422 cost= 0.032359667
Epoch: 9423 cost= 0.031695943
Epoch: 9424 cost= 0.033385687
Epoch: 9425 cost= 0.033658262
Epoch: 9426 cost= 0.035418421
Epoch: 9427 cost= 0.033804681
Epoch: 9428 cost= 0.033610962
Epoch: 9429 cost= 0.032353669
Epoch: 9430 cost= 0.033155572
Epoch: 9431 cost= 0.032312136
Epoch: 9432 cost= 0.033247683
Epoch: 9433 cost= 0.033919223
Epoch: 9434 cost= 0.033065882
Epoch: 9435 cost= 0.033298157
Epoch: 9436 cost= 0.035554007
Epoch: 9437 cost= 0.034078375
Epoch: 9438 cost= 0.033250581
```

```
Epoch: 9439 cost= 0.033633526
Epoch: 9440 cost= 0.033251300
Epoch: 9441 cost= 0.033225659
Epoch: 9442 cost= 0.034365833
Epoch: 9443 cost= 0.032991491
Epoch: 9444 cost= 0.032536659
Epoch: 9445 cost= 0.034876674
Epoch: 9446 cost= 0.035133071
Epoch: 9447 cost= 0.031998247
Epoch: 9448 cost= 0.031163892
Epoch: 9449 cost= 0.031901538
Epoch: 9450 cost= 0.035249203
Epoch: 9451 cost= 0.033820901
Epoch: 9452 cost= 0.033237249
Epoch: 9453 cost= 0.033632226
Epoch: 9454 cost= 0.034515377
Epoch: 9455 cost= 0.033952247
Epoch: 9456 cost= 0.034607239
Epoch: 9457 cost= 0.035506953
Epoch: 9458 cost= 0.035802409
Epoch: 9459 cost= 0.033695996
Epoch: 9460 cost= 0.032589108
Epoch: 9461 cost= 0.031434938
Epoch: 9462 cost= 0.035095040
```

```
Epoch: 9463 cost= 0.034510724
Epoch: 9464 cost= 0.033314303
Epoch: 9465 cost= 0.033763207
Epoch: 9466 cost= 0.034540154
Epoch: 9467 cost= 0.033427373
Epoch: 9468 cost= 0.031916041
Epoch: 9469 cost= 0.032954421
Epoch: 9470 cost= 0.033074152
Epoch: 9471 cost= 0.035630323
Epoch: 9472 cost= 0.033775743
Epoch: 9473 cost= 0.033145282
Epoch: 9474 cost= 0.032901142
Epoch: 9475 cost= 0.032687731
Epoch: 9476 cost= 0.035157122
Epoch: 9477 cost= 0.032174155
Epoch: 9478 cost= 0.034433410
Epoch: 9479 cost= 0.032447699
Epoch: 9480 cost= 0.036338866
Epoch: 9481 cost= 0.033646680
Epoch: 9482 cost= 0.031926949
Epoch: 9483 cost= 0.035014354
Epoch: 9484 cost= 0.035463534
Epoch: 9485 cost= 0.033100732
Epoch: 9486 cost= 0.033828191
```

```
Epoch: 9487 cost= 0.033878706
Epoch: 9488 cost= 0.032984879
Epoch: 9489 cost= 0.033005208
Epoch: 9490 cost= 0.032340139
Epoch: 9491 cost= 0.035353605
Epoch: 9492 cost= 0.034619384
Epoch: 9493 cost= 0.033511445
Epoch: 9494 cost= 0.035802249
Epoch: 9495 cost= 0.032639548
Epoch: 9496 cost= 0.034264714
Epoch: 9497 cost= 0.034328435
Epoch: 9498 cost= 0.034957159
Epoch: 9499 cost= 0.033540167
Epoch: 9500 cost= 0.033955481
Epoch: 9501 cost= 0.030939315
Epoch: 9502 cost= 0.032697465
Epoch: 9503 cost= 0.034553781
Epoch: 9504 cost= 0.033476084
Epoch: 9505 cost= 0.034739494
Epoch: 9506 cost= 0.033671103
Epoch: 9507 cost= 0.035187781
Epoch: 9508 cost= 0.033378381
Epoch: 9509 cost= 0.032938991
Epoch: 9510 cost= 0.034503080
```

```
Epoch: 9511 cost= 0.036734585
Epoch: 9512 cost= 0.034377053
Epoch: 9513 cost= 0.033914331
Epoch: 9514 cost= 0.034723673
Epoch: 9515 cost= 0.035020929
Epoch: 9516 cost= 0.032133386
Epoch: 9517 cost= 0.034307737
Epoch: 9518 cost= 0.033217635
Epoch: 9519 cost= 0.033074446
Epoch: 9520 cost= 0.032814648
Epoch: 9521 cost= 0.036348253
Epoch: 9522 cost= 0.036097266
Epoch: 9523 cost= 0.033396453
Epoch: 9524 cost= 0.034155961
Epoch: 9525 cost= 0.032364976
Epoch: 9526 cost= 0.034460887
Epoch: 9527 cost= 0.034619741
Epoch: 9528 cost= 0.034730908
Epoch: 9529 cost= 0.033996459
Epoch: 9530 cost= 0.034350768
Epoch: 9531 cost= 0.034494035
Epoch: 9532 cost= 0.034993112
Epoch: 9533 cost= 0.034872890
Epoch: 9534 cost= 0.033258785
```

```
Epoch: 9535 cost= 0.034462817
Epoch: 9536 cost= 0.034078144
Epoch: 9537 cost= 0.033760678
Epoch: 9538 cost= 0.033894766
Epoch: 9539 cost= 0.031218547
Epoch: 9540 cost= 0.035466310
Epoch: 9541 cost= 0.034824908
Epoch: 9542 cost= 0.034189131
Epoch: 9543 cost= 0.034044545
Epoch: 9544 cost= 0.032205131
Epoch: 9545 cost= 0.033914179
Epoch: 9546 cost= 0.035539415
Epoch: 9547 cost= 0.031219371
Epoch: 9548 cost= 0.033603486
Epoch: 9549 cost= 0.033768713
Epoch: 9550 cost= 0.034494735
Epoch: 9551 cost= 0.033606526
Epoch: 9552 cost= 0.032752533
Epoch: 9553 cost= 0.032215625
Epoch: 9554 cost= 0.033575397
Epoch: 9555 cost= 0.032857448
Epoch: 9556 cost= 0.032863040
Epoch: 9557 cost= 0.032597516
Epoch: 9558 cost= 0.034054391
```

```
Epoch: 9559 cost= 0.034112692
Epoch: 9560 cost= 0.033175852
Epoch: 9561 cost= 0.032377493
Epoch: 9562 cost= 0.032731831
Epoch: 9563 cost= 0.033310369
Epoch: 9564 cost= 0.034526344
Epoch: 9565 cost= 0.034752589
Epoch: 9566 cost= 0.031825203
Epoch: 9567 cost= 0.033539586
Epoch: 9568 cost= 0.033077523
Epoch: 9569 cost= 0.033670079
Epoch: 9570 cost= 0.034676570
Epoch: 9571 cost= 0.034526765
Epoch: 9572 cost= 0.034335855
Epoch: 9573 cost= 0.033080637
Epoch: 9574 cost= 0.031886488
Epoch: 9575 cost= 0.030906007
Epoch: 9576 cost= 0.035159305
Epoch: 9577 cost= 0.032394696
Epoch: 9578 cost= 0.034176081
Epoch: 9579 cost= 0.033397742
Epoch: 9580 cost= 0.034156013
Epoch: 9581 cost= 0.035676751
Epoch: 9582 cost= 0.034578748
```

```
Epoch: 9583 cost= 0.032927178
Epoch: 9584 cost= 0.037167981
Epoch: 9585 cost= 0.035229027
Epoch: 9586 cost= 0.032790959
Epoch: 9587 cost= 0.034221746
Epoch: 9588 cost= 0.032443311
Epoch: 9589 cost= 0.033208817
Epoch: 9590 cost= 0.033224508
Epoch: 9591 cost= 0.032743912
Epoch: 9592 cost= 0.034838472
Epoch: 9593 cost= 0.035252571
Epoch: 9594 cost= 0.034340892
Epoch: 9595 cost= 0.035206467
Epoch: 9596 cost= 0.034519345
Epoch: 9597 cost= 0.034762669
Epoch: 9598 cost= 0.033891711
Epoch: 9599 cost= 0.034780338
Epoch: 9600 cost= 0.033021804
Epoch: 9601 cost= 0.034910880
Epoch: 9602 cost= 0.033980828
Epoch: 9603 cost= 0.036290631
Epoch: 9604 cost= 0.032942805
Epoch: 9605 cost= 0.033100035
Epoch: 9606 cost= 0.033720974
```

```
Epoch: 9607 cost= 0.034145836
Epoch: 9608 cost= 0.033655971
Epoch: 9609 cost= 0.035071898
Epoch: 9610 cost= 0.035006050
Epoch: 9611 cost= 0.033449106
Epoch: 9612 cost= 0.033227108
Epoch: 9613 cost= 0.033051811
Epoch: 9614 cost= 0.035188124
Epoch: 9615 cost= 0.032888085
Epoch: 9616 cost= 0.033672433
Epoch: 9617 cost= 0.034814328
Epoch: 9618 cost= 0.033433471
Epoch: 9619 cost= 0.034146104
Epoch: 9620 cost= 0.034058858
Epoch: 9621 cost= 0.032470204
Epoch: 9622 cost= 0.035294373
Epoch: 9623 cost= 0.034377668
Epoch: 9624 cost= 0.031950794
Epoch: 9625 cost= 0.033957087
Epoch: 9626 cost= 0.034274265
Epoch: 9627 cost= 0.033357047
Epoch: 9628 cost= 0.035799842
Epoch: 9629 cost= 0.035623860
Epoch: 9630 cost= 0.033035360
```

```
Epoch: 9631 cost= 0.033361193
Epoch: 9632 cost= 0.034231707
Epoch: 9633 cost= 0.035780806
Epoch: 9634 cost= 0.035654206
Epoch: 9635 cost= 0.034429416
Epoch: 9636 cost= 0.035440508
Epoch: 9637 cost= 0.032952309
Epoch: 9638 cost= 0.033338115
Epoch: 9639 cost= 0.032796554
Epoch: 9640 cost= 0.034166679
Epoch: 9641 cost= 0.032458413
Epoch: 9642 cost= 0.033982027
Epoch: 9643 cost= 0.033920754
Epoch: 9644 cost= 0.033599727
Epoch: 9645 cost= 0.034344599
Epoch: 9646 cost= 0.034684595
Epoch: 9647 cost= 0.034665629
Epoch: 9648 cost= 0.031970020
Epoch: 9649 cost= 0.032928169
Epoch: 9650 cost= 0.032754924
Epoch: 9651 cost= 0.033867188
Epoch: 9652 cost= 0.033096675
Epoch: 9653 cost= 0.034680806
Epoch: 9654 cost= 0.036045872
```

```
Epoch: 9655 cost= 0.033732902
Epoch: 9656 cost= 0.031419825
Epoch: 9657 cost= 0.035155632
Epoch: 9658 cost= 0.033561438
Epoch: 9659 cost= 0.034169067
Epoch: 9660 cost= 0.032793351
Epoch: 9661 cost= 0.035043757
Epoch: 9662 cost= 0.034597330
Epoch: 9663 cost= 0.033801876
Epoch: 9664 cost= 0.034571517
Epoch: 9665 cost= 0.033855926
Epoch: 9666 cost= 0.034293149
Epoch: 9667 cost= 0.033482730
Epoch: 9668 cost= 0.035966441
Epoch: 9669 cost= 0.032065928
Epoch: 9670 cost= 0.035085078
Epoch: 9671 cost= 0.032935925
Epoch: 9672 cost= 0.034172308
Epoch: 9673 cost= 0.033439353
Epoch: 9674 cost= 0.033745762
Epoch: 9675 cost= 0.032556776
Epoch: 9676 cost= 0.035532266
Epoch: 9677 cost= 0.035474710
Epoch: 9678 cost= 0.034074407
```

```
Epoch: 9679 cost= 0.032825898
Epoch: 9680 cost= 0.033537261
Epoch: 9681 cost= 0.033981066
Epoch: 9682 cost= 0.034483369
Epoch: 9683 cost= 0.034288634
Epoch: 9684 cost= 0.033029892
Epoch: 9685 cost= 0.034797307
Epoch: 9686 cost= 0.034940038
Epoch: 9687 cost= 0.034558855
Epoch: 9688 cost= 0.033700433
Epoch: 9689 cost= 0.032301296
Epoch: 9690 cost= 0.034873199
Epoch: 9691 cost= 0.031883739
Epoch: 9692 cost= 0.033508264
Epoch: 9693 cost= 0.033591338
Epoch: 9694 cost= 0.034520343
Epoch: 9695 cost= 0.033460051
Epoch: 9696 cost= 0.033790424
Epoch: 9697 cost= 0.033948667
Epoch: 9698 cost= 0.033634406
Epoch: 9699 cost= 0.034015931
Epoch: 9700 cost= 0.033241536
Epoch: 9701 cost= 0.033039063
Epoch: 9702 cost= 0.035253301
```

```
Epoch: 9703 cost= 0.032761015
Epoch: 9704 cost= 0.033457078
Epoch: 9705 cost= 0.034372926
Epoch: 9706 cost= 0.034949109
Epoch: 9707 cost= 0.034434985
Epoch: 9708 cost= 0.033525303
Epoch: 9709 cost= 0.033177998
Epoch: 9710 cost= 0.032719523
Epoch: 9711 cost= 0.032099944
Epoch: 9712 cost= 0.036022771
Epoch: 9713 cost= 0.033438478
Epoch: 9714 cost= 0.031815089
Epoch: 9715 cost= 0.033576801
Epoch: 9716 cost= 0.035423249
Epoch: 9717 cost= 0.033447653
Epoch: 9718 cost= 0.034277588
Epoch: 9719 cost= 0.034350686
Epoch: 9720 cost= 0.033177339
Epoch: 9721 cost= 0.034405053
Epoch: 9722 cost= 0.032822013
Epoch: 9723 cost= 0.034787506
Epoch: 9724 cost= 0.032696698
Epoch: 9725 cost= 0.033275120
Epoch: 9726 cost= 0.033147290
```

```
Epoch: 9727 cost= 0.035494927
Epoch: 9728 cost= 0.033299465
Epoch: 9729 cost= 0.034243722
Epoch: 9730 cost= 0.034640267
Epoch: 9731 cost= 0.035881907
Epoch: 9732 cost= 0.032984331
Epoch: 9733 cost= 0.036722645
Epoch: 9734 cost= 0.034331411
Epoch: 9735 cost= 0.034247600
Epoch: 9736 cost= 0.033766646
Epoch: 9737 cost= 0.033558547
Epoch: 9738 cost= 0.034028113
Epoch: 9739 cost= 0.033438057
Epoch: 9740 cost= 0.033908341
Epoch: 9741 cost= 0.032745149
Epoch: 9742 cost= 0.032879688
Epoch: 9743 cost= 0.035965532
Epoch: 9744 cost= 0.035004038
Epoch: 9745 cost= 0.033067200
Epoch: 9746 cost= 0.036402978
Epoch: 9747 cost= 0.034327801
Epoch: 9748 cost= 0.033667371
Epoch: 9749 cost= 0.034257967
Epoch: 9750 cost= 0.034098495
```

```
Epoch: 9751 cost= 0.033410165
Epoch: 9752 cost= 0.035293788
Epoch: 9753 cost= 0.032539539
Epoch: 9754 cost= 0.033777401
Epoch: 9755 cost= 0.033224337
Epoch: 9756 cost= 0.034292541
Epoch: 9757 cost= 0.035003714
Epoch: 9758 cost= 0.033227820
Epoch: 9759 cost= 0.033495616
Epoch: 9760 cost= 0.033742942
Epoch: 9761 cost= 0.033978596
Epoch: 9762 cost= 0.032819640
Epoch: 9763 cost= 0.032116797
Epoch: 9764 cost= 0.034338772
Epoch: 9765 cost= 0.033622030
Epoch: 9766 cost= 0.034751222
Epoch: 9767 cost= 0.033430543
Epoch: 9768 cost= 0.034482799
Epoch: 9769 cost= 0.032820635
Epoch: 9770 cost= 0.035388410
Epoch: 9771 cost= 0.034774106
Epoch: 9772 cost= 0.033666003
Epoch: 9773 cost= 0.035291512
Epoch: 9774 cost= 0.034031738
```

```
Epoch: 9775 cost= 0.034459971
Epoch: 9776 cost= 0.036298871
Epoch: 9777 cost= 0.033672210
Epoch: 9778 cost= 0.035040032
Epoch: 9779 cost= 0.032964796
Epoch: 9780 cost= 0.032845672
Epoch: 9781 cost= 0.033877201
Epoch: 9782 cost= 0.035341121
Epoch: 9783 cost= 0.034664467
Epoch: 9784 cost= 0.034536839
Epoch: 9785 cost= 0.035130631
Epoch: 9786 cost= 0.033494651
Epoch: 9787 cost= 0.032210808
Epoch: 9788 cost= 0.034331381
Epoch: 9789 cost= 0.034000743
Epoch: 9790 cost= 0.033498991
Epoch: 9791 cost= 0.032000445
Epoch: 9792 cost= 0.034755547
Epoch: 9793 cost= 0.035657290
Epoch: 9794 cost= 0.033779953
Epoch: 9795 cost= 0.032438848
Epoch: 9796 cost= 0.035110336
Epoch: 9797 cost= 0.033817891
Epoch: 9798 cost= 0.033483613
```

```
Epoch: 9799 cost= 0.034582879
Epoch: 9800 cost= 0.034364983
Epoch: 9801 cost= 0.034729112
Epoch: 9802 cost= 0.033972766
Epoch: 9803 cost= 0.032948419
Epoch: 9804 cost= 0.034339521
Epoch: 9805 cost= 0.034864310
Epoch: 9806 cost= 0.032599710
Epoch: 9807 cost= 0.033893451
Epoch: 9808 cost= 0.033554636
Epoch: 9809 cost= 0.034484338
Epoch: 9810 cost= 0.034683350
Epoch: 9811 cost= 0.033531219
Epoch: 9812 cost= 0.032432698
Epoch: 9813 cost= 0.034283657
Epoch: 9814 cost= 0.033600256
Epoch: 9815 cost= 0.034744330
Epoch: 9816 cost= 0.031984374
Epoch: 9817 cost= 0.032772966
Epoch: 9818 cost= 0.033818971
Epoch: 9819 cost= 0.032338329
Epoch: 9820 cost= 0.033204086
Epoch: 9821 cost= 0.035933413
Epoch: 9822 cost= 0.034732215
```

```
Epoch: 9823 cost= 0.035375569
Epoch: 9824 cost= 0.033600487
Epoch: 9825 cost= 0.033227608
Epoch: 9826 cost= 0.034956682
Epoch: 9827 cost= 0.033497605
Epoch: 9828 cost= 0.034765132
Epoch: 9829 cost= 0.034002595
Epoch: 9830 cost= 0.032066487
Epoch: 9831 cost= 0.033721954
Epoch: 9832 cost= 0.035108667
Epoch: 9833 cost= 0.033317469
Epoch: 9834 cost= 0.033374839
Epoch: 9835 cost= 0.034858048
Epoch: 9836 cost= 0.035185624
Epoch: 9837 cost= 0.033744205
Epoch: 9838 cost= 0.032269385
Epoch: 9839 cost= 0.034075666
Epoch: 9840 cost= 0.033776887
Epoch: 9841 cost= 0.034456931
Epoch: 9842 cost= 0.031211551
Epoch: 9843 cost= 0.034147244
Epoch: 9844 cost= 0.034784604
Epoch: 9845 cost= 0.033327915
Epoch: 9846 cost= 0.034651671
```

```
Epoch: 9847 cost= 0.033703092
Epoch: 9848 cost= 0.033553455
Epoch: 9849 cost= 0.034986358
Epoch: 9850 cost= 0.033583928
Epoch: 9851 cost= 0.032164685
Epoch: 9852 cost= 0.034963850
Epoch: 9853 cost= 0.033482190
Epoch: 9854 cost= 0.034096900
Epoch: 9855 cost= 0.032646604
Epoch: 9856 cost= 0.032338172
Epoch: 9857 cost= 0.034210969
Epoch: 9858 cost= 0.036172420
Epoch: 9859 cost= 0.034399044
Epoch: 9860 cost= 0.031897690
Epoch: 9861 cost= 0.034638856
Epoch: 9862 cost= 0.034111355
Epoch: 9863 cost= 0.033348277
Epoch: 9864 cost= 0.036053143
Epoch: 9865 cost= 0.032890052
Epoch: 9866 cost= 0.032414854
Epoch: 9867 cost= 0.034617741
Epoch: 9868 cost= 0.035381161
Epoch: 9869 cost= 0.033060756
Epoch: 9870 cost= 0.035254322
```

```
Epoch: 9871 cost= 0.034537319
Epoch: 9872 cost= 0.036135375
Epoch: 9873 cost= 0.033876628
Epoch: 9874 cost= 0.035043638
Epoch: 9875 cost= 0.031342391
Epoch: 9876 cost= 0.033548683
Epoch: 9877 cost= 0.032908071
Epoch: 9878 cost= 0.034450430
Epoch: 9879 cost= 0.036451019
Epoch: 9880 cost= 0.032129943
Epoch: 9881 cost= 0.035310913
Epoch: 9882 cost= 0.033306584
Epoch: 9883 cost= 0.034043290
Epoch: 9884 cost= 0.033009026
Epoch: 9885 cost= 0.033382595
Epoch: 9886 cost= 0.036055259
Epoch: 9887 cost= 0.034294754
Epoch: 9888 cost= 0.035579570
Epoch: 9889 cost= 0.034870360
Epoch: 9890 cost= 0.034524642
Epoch: 9891 cost= 0.033284463
Epoch: 9892 cost= 0.034016371
Epoch: 9893 cost= 0.033624288
Epoch: 9894 cost= 0.033769730
```

```
Epoch: 9895 cost= 0.034843270
Epoch: 9896 cost= 0.034020238
Epoch: 9897 cost= 0.033477578
Epoch: 9898 cost= 0.032746792
Epoch: 9899 cost= 0.035018828
Epoch: 9900 cost= 0.035705574
Epoch: 9901 cost= 0.031512115
Epoch: 9902 cost= 0.035340115
Epoch: 9903 cost= 0.032985006
Epoch: 9904 cost= 0.032388438
Epoch: 9905 cost= 0.034330301
Epoch: 9906 cost= 0.035046782
Epoch: 9907 cost= 0.033266988
Epoch: 9908 cost= 0.031573683
Epoch: 9909 cost= 0.031597108
Epoch: 9910 cost= 0.032509513
Epoch: 9911 cost= 0.034801319
Epoch: 9912 cost= 0.032883346
Epoch: 9913 cost= 0.033496965
Epoch: 9914 cost= 0.034499109
Epoch: 9915 cost= 0.033463478
Epoch: 9916 cost= 0.033489559
Epoch: 9917 cost= 0.034608740
Epoch: 9918 cost= 0.032654345
```

```
Epoch: 9919 cost= 0.034249701
Epoch: 9920 cost= 0.035991210
Epoch: 9921 cost= 0.032606632
Epoch: 9922 cost= 0.034871735
Epoch: 9923 cost= 0.034472175
Epoch: 9924 cost= 0.032749068
Epoch: 9925 cost= 0.036166575
Epoch: 9926 cost= 0.033826910
Epoch: 9927 cost= 0.033632599
Epoch: 9928 cost= 0.034707222
Epoch: 9929 cost= 0.032784168
Epoch: 9930 cost= 0.034116924
Epoch: 9931 cost= 0.035993364
Epoch: 9932 cost= 0.034967277
Epoch: 9933 cost= 0.032366440
Epoch: 9934 cost= 0.033032492
Epoch: 9935 cost= 0.031649023
Epoch: 9936 cost= 0.032866515
Epoch: 9937 cost= 0.034081247
Epoch: 9938 cost= 0.034615245
Epoch: 9939 cost= 0.035538308
Epoch: 9940 cost= 0.031346250
Epoch: 9941 cost= 0.033577379
Epoch: 9942 cost= 0.032857817
```

```
Epoch: 9943 cost= 0.034180272
Epoch: 9944 cost= 0.035025418
Epoch: 9945 cost= 0.034587018
Epoch: 9946 cost= 0.035201669
Epoch: 9947 cost= 0.033461090
Epoch: 9948 cost= 0.033163175
Epoch: 9949 cost= 0.034059539
Epoch: 9950 cost= 0.033102363
Epoch: 9951 cost= 0.034334499
Epoch: 9952 cost= 0.034215264
Epoch: 9953 cost= 0.033610117
Epoch: 9954 cost= 0.033562567
Epoch: 9955 cost= 0.033627503
Epoch: 9956 cost= 0.034182284
Epoch: 9957 cost= 0.033824567
Epoch: 9958 cost= 0.034764271
Epoch: 9959 cost= 0.034400892
Epoch: 9960 cost= 0.032615148
Epoch: 9961 cost= 0.034951176
Epoch: 9962 cost= 0.033003997
Epoch: 9963 cost= 0.032621760
Epoch: 9964 cost= 0.035115212
Epoch: 9965 cost= 0.034217406
Epoch: 9966 cost= 0.031449050
```

```
Epoch: 9967 cost= 0.033193968
Epoch: 9968 cost= 0.035307515
Epoch: 9969 cost= 0.034036275
Epoch: 9970 cost= 0.034258526
Epoch: 9971 cost= 0.033601884
Epoch: 9972 cost= 0.034699153
Epoch: 9973 cost= 0.035749048
Epoch: 9974 cost= 0.034593131
Epoch: 9975 cost= 0.034274589
Epoch: 9976 cost= 0.032331232
Epoch: 9977 cost= 0.034370258
Epoch: 9978 cost= 0.034192231
Epoch: 9979 cost= 0.033498012
Epoch: 9980 cost= 0.033317234
Epoch: 9981 cost= 0.033918288
Epoch: 9982 cost= 0.034603611
Epoch: 9983 cost= 0.033276375
Epoch: 9984 cost= 0.032876890
Epoch: 9985 cost= 0.034209255
Epoch: 9986 cost= 0.034913804
Epoch: 9987 cost= 0.034144446
Epoch: 9988 cost= 0.033815347
Epoch: 9989 cost= 0.032366369
Epoch: 9990 cost= 0.033470888
```

```
Epoch: 9991 cost= 0.034431931
Epoch: 9992 cost= 0.034538511
Epoch: 9993 cost= 0.033867300
Epoch: 9994 cost= 0.032636408
Epoch: 9995 cost= 0.032983154
Epoch: 9996 cost= 0.034045119
Epoch: 9997 cost= 0.036212806
Epoch: 9998 cost= 0.032909136
Epoch: 9999 cost= 0.033200961
Epoch: 10000 cost= 0.034095608
Optimization Finished!

Process finished with exit code 0
```