```
C:\Python35\python.exe M:/ce888/ce888-assignment2/n_denoising_auto-encoder_cifar10.py
Using TensorFlow backend.
Downloading data from http://www.cs.toronto.edu/~kriz/cifar-10-python.tar.gz
170369024/170498071 [============================>.] - ETA: 0sx_train shape: (50000, 32, 32, 3)
50000 train samples
10000 test samples
Train on 50000 samples, validate on 10000 samples
Epoch 1/20
2018-04-17 09:52:15.174984: W C:\tf_jenkins\home\workspace\rel-win\M\windows\PY\35\tensorflow\core\platform\cpu_feature_guard.cc:45] The TensorFlow library wasn't compiled to use AVX instructions, but these are available on your machine and could speed up CPU computations.
2018-04-17 09:52:15.175297: W C:\tf_jenkins\home\workspace\rel-win\M\windows\PY\35\tensorflow\core\platform\cpu_feature_guard.cc:45] The TensorFlow library wasn't compiled to use AVX2 instructions, but these are available on your machine and could speed up CPU computations.
50000/50000 [==============================] - 285s - loss: 0.5643 - val_loss: 0.5584
Epoch 2/20
50000/50000 [==============================] - 278s - loss: 0.5574 - val_loss: 0.5560
Epoch 3/20
50000/50000 [==============================] - 286s - loss: 0.5558 - val_loss: 0.5549
Epoch 4/20
50000/50000 [==============================] - 276s - loss: 0.5549 - val_loss: 0.5554
Epoch 5/20
50000/50000 [==============================] - 274s - loss: 0.5544 - val_loss: 0.5537
Epoch 6/20
50000/50000 [==============================] - 278s - loss: 0.5540 - val_loss: 0.5531
Epoch 7/20
50000/50000 [==============================] - 273s - loss: 0.5537 - val_loss: 0.5531
Epoch 8/20
50000/50000 [==============================] - 272s - loss: 0.5535 - val_loss: 0.5536
Epoch 9/20
```

```
27 50000/50000 [==============================] - 271s - loss
   : 0.5533 - val_loss: 0.5526
28 Epoch 10/20
29 50000/50000 [==============================] - 276s - loss
   : 0.5531 - val_loss: 0.5531
30 Epoch 11/20
31 50000/50000 [==============================] - 272s - loss
   : 0.5531 - val_loss: 0.5541
32 Epoch 12/20
33 50000/50000 [==============================] - 276s - loss
   : 0.5529 - val_loss: 0.5522
34 Epoch 13/20
35 50000/50000 [==============================] - 271s - loss
   : 0.5528 - val_loss: 0.5525
36 Epoch 14/20
37 50000/50000 [==============================] - 279s - loss
   : 0.5528 - val_loss: 0.5522
38 Epoch 15/20
39 50000/50000 [==============================] - 284s - loss
   : 0.5528 - val_loss: 0.5521
40 Epoch 16/20
41 50000/50000 [==============================] - 283s - loss
   : 0.5528 - val_loss: 0.5521
42 Epoch 17/20
43 50000/50000 [==============================] - 272s - loss
   : 0.5526 - val_loss: 0.5521
44 Epoch 18/20
45 50000/50000 [==============================] - 271s - loss
   : 0.5527 - val_loss: 0.5570
46 Epoch 19/20
47 50000/50000 [==============================] - 276s - loss
   : 0.5526 - val_loss: 0.5522
48 Epoch 20/20
49 50000/50000 [==============================] - 272s - loss
   : 0.5526 - val_loss: 0.5520
50 ============================================================
   ====
51 The loss on x_test : 0.552013400173
52 The accuracy on x_test : 0.447986599827
53 ============================================================
   ====
54 The loss on x_train : 0.551097785912
55 The accuracy on x_train : 0.448902214088
56 ============================================================
   ====
```

```
The loss on x1_train : -1907.741458203125
The accuracy on x1_train : 1908.741458203125
================================================================
The loss on x2_train : -1907.741473281250
The accuracy on x2_train : 1908.741473281250
================================================================
The loss on x3_train : -1907.741416718750
The accuracy on x3_train : 1908.741416718750

Process finished with exit code 0

```