

```
1 Testing started at 12:25 ...
2 Started loading mnist train images...
3 Finished loading mnist train images after 40.195 seconds
4 Number of train images: 60000
5 kmeans cluster 0 mean distance: 3154279.147262305
6 soc cluster 0 mean distance: 21681431240.25
7 kmeans cluster 1 mean distance: 2785531.962296487
8 soc cluster 1 mean distance: 70738907.125
9 kmeans cluster 2 mean distance: 2708951.002484875
10 soc cluster 2 mean distance: 2111134514.625
11 kmeans cluster 3 mean distance: 2971957.8881817046
12 soc cluster 3 mean distance: 749978153
13 kmeans cluster 4 mean distance: 2325606.0367851965
14 soc cluster 4 mean distance: 820750954.25
15 kmeans cluster 5 mean distance: 2844041.6107226107
16 soc cluster 5 mean distance: 6005002749.5
17 kmeans cluster 6 mean distance: 3256791.815201803
18 soc cluster 6 mean distance: 265185415.25
19 kmeans cluster 7 mean distance: 1830991.262439207
20 soc cluster 7 mean distance: 852851977.375
21
22 kmeans all clusters average mean distance: 2734768.
    840671774
23 soc all clusters average mean distance: 4069634238.921875
24
25 kmeans cluster 0 variance: 635504549627.201
26 soc cluster 0 variance: 24191722520610640000000000
27 kmeans cluster 1 variance: 684453143004.4192
28 soc cluster 1 variance: 51092598518837630
29 kmeans cluster 2 variance: 633852896865.2379
30 soc cluster 2 variance: 16083924493771297000000
31 kmeans cluster 3 variance: 522104758984.86444
32 soc cluster 3 variance: 79101083177293020000
33 kmeans cluster 4 variance: 431447776467.2398
34 soc cluster 4 variance: 102059904008219310000
35 kmeans cluster 5 variance: 311631728200.02716
36 soc cluster 5 variance: 509078139317738300000000
37 kmeans cluster 6 variance: 485546235602.1347
38 soc cluster 6 variance: 4115172056629701000
39 kmeans cluster 7 variance: 494398641941.2687
40 soc cluster 7 variance: 148657226324829630000
41
42 kmeans all clusters average variance distance: 524867466336
    .5491
43 soc all clusters average variance distance:
    3090028053650476000000000
44
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