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C:\Users\ajdse\Anaconda3\python.exe "D:/EEE Year4/Representation-and-Distance-Metrics-Learning/k_mean_main.py"
C:\Users\ajdse\Anaconda3\lib\site-packages\sklearn\externals\joblib\externals\cloudpickle\cloudpickle.py:47: DeprecationWarning: the imp module is deprecated in favour of importlib; see the module's documentation for alternative uses
    import imp
-----Baseline K-Means-----
Processing K-means clustering...

Accuracy for K-Mean @rank 1 : 68.0714% K = 700
Accuracy for K-Mean @rank 5 : 81.4286% K = 700
Accuracy for K-Mean @rank 10 : 84.9286% K = 700

-----PCA-----
Processing K-means clustering...

Accuracy for K-Mean @rank 1 : 67.7143% K = 700
Accuracy for K-Mean @rank 5 : 80.1429% K = 700
Accuracy for K-Mean @rank 10 : 83.7857% K = 700

-----LMNN-----
2 1492201.5912604597 -130063.18915840983 71 1.0099999999999999e-06
3 1376092.838951887 -116108.75230857264 33 1.0200999999999998e-06
4 1268252.2866570964 -107840.55229479074 16 1.0303009999999997e-06
5 1168397.491284551 -99854.79537254525 12 1.0406040099999998e-06
6 1076588.9907548057 -91808.50052974536 8 1.0510100500999999e-06
7 993050.8719144454 -83538.11884036032 7 1.061520150601e-06
8 918026.754533605 -75024.11738084047 6 1.07213535210701e-06
9 851786.9652249853 -66239.78930861969 6 1.08285670562808e-06
10 794607.5256242474 -57179.43960073788 4 1.0936852726843608e-06
11 746778.9884292632 -47828.53719498415 4 1.1046221254112045e-06
12 708586.3985757977 -38192.58985346556 4 1.1156683466653166e-06
13 680329.4116148072 -28256.98696099047 4 1.1268250301319698e-06
14 662319.8311683331 -18009.580446474138 6 1.1380932804332895e-06
15 654904.3146950984 -7415.516473234631 14 1.1494742132376223e-06
16 654765.155476759 -139.15921833948232 20 2.9024223884249963e-07
17 654765.155476759 0.0 20 3.3326689530318236e-20
18 654765.155476759 0.0 20 2.1037472766013387e-21
19 654765.155476759 0.0 20 2.124784749367352e-21
LMNN didn't converge in 20 steps.
Processing K-means clustering...

Accuracy for K-Mean @rank 1 : 66.0000% K = 700
Accuracy for K-Mean @rank 5 : 79.7857% K = 700
Accuracy for K-Mean @rank 10 : 83.0000% K = 700

-----PCA_LMNN-----
2 1366326.7803372412 -129297.92900720262 74 1.0099999999999999e-06
3 1250788.0181446248 -115538.76219261647 35 1.0200999999999998e-06
4 1143517.6086976859 -107270.4094469389 16 1.0303009999999997e-06
5 1044207.5323006443 -99310.07639704156 12 1.0406040099999998e-06
6 952895.5226102856 -91312.00969035877 9 1.0510100500999999e-06
7 869800.3721074313 -83095.15050285426 8 1.061520150601e-06

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8 795163.163912978 -74637.20819445327 6 1.07213535210701e-06
9 729255.4172316609 -65907.7466813171 6 1.08285670562808e-06
10 672348.8329520328 -56906.58427962812 6 1.0936852726843608e-06
11 624729.6655412633 -47619.1674107695 4 1.1046221254112045e-06
12 586687.5690575377 -38042.09648372559 4 1.1156683466653166e-06
13 558517.2193290149 -28170.349728522822 5 1.1268250301319698e-06
14 540531.4998157484 -17985.719513266464 8 1.1380932804332895e-06
15 533080.883667701 -7450.616148047382 17 1.1494742132376223e-06
16 532935.4581719857 -145.4254957153462 20 2.9024223884249963e-07
17 532935.4581719857 0.0 20 1.6663344765159118e-20
18 532935.4581719857 0.0 20 4.2074945532026774e-21
19 532935.4581719857 0.0 20 1.062392374683676e-21

```

LMNN didn't converge in 20 steps.

Processing K-means clustering...

Accuracy for K-Mean @rank 1 : 66.2857% K = 700
Accuracy for K-Mean @rank 5 : 79.5000% K = 700
Accuracy for K-Mean @rank 10 : 82.7143% K = 700

-----NCA-----

```

[NCA]
[NCA]  Iteration      Objective Value      Time(s)
[NCA]  -----
[NCA]           0          7.366959e+03          8.51
[NCA]           1          7.367001e+03          8.51
[NCA]           2          7.367999e+03          8.64
[NCA]           3          7.368000e+03          8.62
[NCA]           4          7.368000e+03          8.67
[NCA] Training took    47.37s.

```

Processing K-means clustering...

Accuracy for K-Mean @rank 1 : 64.7857% K = 700
Accuracy for K-Mean @rank 5 : 79.8571% K = 700
Accuracy for K-Mean @rank 10 : 83.5000% K = 700

-----PCA_NCA-----

```

[NCA]
[NCA]  Iteration      Objective Value      Time(s)
[NCA]  -----
[NCA]           0          7.316730e+03          5.26
[NCA]           1          7.367804e+03          5.56
[NCA]           2          7.367995e+03          6.17
[NCA]           3          7.367995e+03          5.93
[NCA]           4          7.367997e+03          5.93
[NCA]           5          7.367998e+03          5.92
[NCA]           6          7.367999e+03          6.03
[NCA]           7          7.367999e+03          6.05
[NCA]           8          7.367999e+03          6.11
[NCA]           9          7.368000e+03          6.03
[NCA]          10          7.368000e+03          5.87
[NCA]          11          7.368000e+03          6.10
[NCA]          12          7.368000e+03          6.05
[NCA]          13          7.368000e+03          6.01
[NCA]          14          7.368000e+03          5.96

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[NCA]          15          7.368000e+03          5.93
```

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[NCA] Training took    98.99s.
```

```
Processing K-means clustering...
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```
Accuracy for K-Mean @rank 1 :  68.1429% K = 700
```

```
Accuracy for K-Mean @rank 5 :  83.0714% K = 700
```

```
Accuracy for K-Mean @rank 10 : 86.3571% K = 700
```

```
-----ITML-----
```

```
itml iter: 0, conv = 19.123616
```

```
itml iter: 1, conv = 3.102729
```

```
itml iter: 2, conv = 0.231093
```

```
itml iter: 3, conv = 0.012905
```

```
itml iter: 4, conv = 0.001525
```

```
itml iter: 5, conv = 0.000188
```

```
itml iter: 6, conv = 0.000029
```

```
itml converged at iter: 7, conv = 0.000007
```

```
Processing K-means clustering...
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```
Accuracy for K-Mean @rank 1 :  68.7857% K = 700
```

```
Accuracy for K-Mean @rank 5 :  82.2143% K = 700
```

```
Accuracy for K-Mean @rank 10 : 85.7143% K = 700
```

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-----PCA_ITML-----
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```
itml iter: 0, conv = 17.846291
```

```
itml iter: 1, conv = 3.425653
```

```
itml iter: 2, conv = 0.325076
```

```
itml iter: 3, conv = 0.034348
```

```
itml iter: 4, conv = 0.005241
```

```
itml iter: 5, conv = 0.000468
```

```
itml iter: 6, conv = 0.000082
```

```
itml converged at iter: 7, conv = 0.000008
```

```
Processing K-means clustering...
```

```
Accuracy for K-Mean @rank 1 :  68.7143% K = 700
```

```
Accuracy for K-Mean @rank 5 :  82.5714% K = 700
```

```
Accuracy for K-Mean @rank 10 : 86.7857% K = 700
```

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-----PCA_MMC-----
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```
mmc iter: 0, conv = 0.022361, projections = 10000
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```
mmc iter: 1, conv = 0.011180, projections = 10000
```

```
mmc iter: 2, conv = 0.005590, projections = 10000
```

```
mmc iter: 3, conv = 0.002795, projections = 10000
```

```
mmc iter: 4, conv = 0.001398, projections = 10000
```

```
mmc iter: 5, conv = 0.000699, projections = 10000
```

```
mmc iter: 6, conv = 0.000349, projections = 10000
```

```
mmc iter: 7, conv = 0.000175, projections = 10000
```

```
mmc iter: 8, conv = 0.000087, projections = 10000
```

```
mmc iter: 9, conv = 0.000044, projections = 10000
```

```
mmc iter: 10, conv = 0.000022, projections = 10000
```

```
mmc iter: 11, conv = 0.000011, projections = 10000
```

```
mmc converged at iter 12, conv = 0.000005
```

```
Processing K-means clustering...
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```
Accuracy for K-Mean @rank 1 : 68.5000% K = 700
Accuracy for K-Mean @rank 5 : 81.7857% K = 700
Accuracy for K-Mean @rank 10 : 86.2857% K = 700

-----MMC diagonal-----
mmc iter: 0, conv = 0.091532
mmc iter: 1, conv = 0.002107
mmc iter: 2, conv = 0.000065
mmc iter: 3, conv = 0.000001
Processing K-means clustering...
Traceback (most recent call last):
  File "D:/EEE Year4/Representation-and-Distance-Metrics-Learning/
k_mean_main.py", line 147, in <module>
    transformed_gallery_features = mmc.transform(gallery_features)
  File "D:/EEE Year4/Representation-and-Distance-Metrics-Learning/
k_mean_main.py", line 17, in compute_k_mean
    k_mean = KMeans(n_clusters=n_clusters).fit(gallery_data)
  File "C:\Users\ajdse\Anaconda3\lib\site-packages\sklearn\cluster\
k_means_.py", line 968, in fit
    return_n_iter=True)
  File "C:\Users\ajdse\Anaconda3\lib\site-packages\sklearn\cluster\
k_means_.py", line 311, in k_means
    order=order, copy=copy_x)
  File "C:\Users\ajdse\Anaconda3\lib\site-packages\sklearn\utils\
validation.py", line 547, in check_array
    "if it contains a single sample.".format(array))
ValueError: Expected 2D array, got 1D array instead:
array=[  3.   3.   6. ... 1461. 1463. 1463.].
Reshape your data either using array.reshape(-1, 1) if your data has a
single feature or array.reshape(1, -1) if it contains a single sample.

Process finished with exit code 1
```