調整range

range1(0.0, 10000.0);

range2(10000000.0, 10010000.0);

range3(20000000.0, 20010000.0);

20% 40% 60% 99% 平分三份作圖比較

33.3333333%

上次的kmean: c++用kmean邏輯做，但分群有時候(15-25%)會出問題。

這次的kmean: 用python model分完組後輸出，再拿來當c++ ALEX input

->確定分出來的結果就是suboptimal (1:8:1 & 33.5:33:33.5)

33%一次放入:9.23539e+09

K=5 為了區域密度跟k=3的時候一樣，10000改為6000

range1(0.0, 6000.0);

range2(5000000.0, 5006000.0);

range3(10000000.0, 10006000.0);

range4(15000000.0, 15006000.0);

range5(20000000.0, 20006000.0);

確定kmean沒有分錯: 五個range bulkload

如果新兩個range是在後面? k=5

range1(0.0, 6000.0);

range2(10000000.0, 10010000.0);

range3(20000000.0, 20010000.0);

40000000000000000000

50000000000000000000?

各2000萬

隨機生成1000萬1.直接丟 2.kmean分3/5/7群 的結果

重做k=3的80% & 33%

80%

1

Total lookup time: 2.53145e+09 nanoseconds

front one lookup time: 7.98258e+08 nanoseconds

middle one lookup time: 1.28105e+09 nanoseconds

back one lookup time: 4.52141e+08 nanoseconds

2

Total lookup time: 2.63688e+09 nanoseconds

front one lookup time: 8.61153e+08 nanoseconds

middle one lookup time: 1.16488e+09 nanoseconds

back one lookup time: 6.10843e+08 nanoseconds

3

Total lookup time: 2.26782e+09 nanoseconds

front one lookup time: 2.17544e+08 nanoseconds

middle one lookup time: 1.5968e+09 nanoseconds

back one lookup time: 4.53477e+08 nanoseconds

4

Total lookup time: 2.32309e+09 nanoseconds

front one lookup time: 6.92354e+08 nanoseconds

middle one lookup time: 1.22036e+09 nanoseconds

back one lookup time: 4.10372e+08 nanoseconds

5

Total lookup time: 2.98699e+09 nanoseconds

front one lookup time: 1.18255e+09 nanoseconds

middle one lookup time: 1.37655e+09 nanoseconds

back one lookup time: 4.27891e+08 nanoseconds

6

Total lookup time: 2.01223e+09 nanoseconds

front one lookup time: 1.8255e+08 nanoseconds

middle one lookup time: 1.43712e+09 nanoseconds

back one lookup time: 3.92559e+08 nanoseconds

7

Total lookup time: 2.8834e+09 nanoseconds

front one lookup time: 1.00521e+09 nanoseconds

middle one lookup time: 1.39218e+09 nanoseconds

back one lookup time: 4.86008e+08 nanoseconds

8

Total lookup time: 2.05451e+09 nanoseconds

front one lookup time: 1.84066e+08 nanoseconds

middle one lookup time: 1.43127e+09 nanoseconds

back one lookup time: 4.39175e+08 nanoseconds

9

Total lookup time: 2.75171e+09 nanoseconds

front one lookup time: 6.52038e+08 nanoseconds

middle one lookup time: 1.35065e+09 nanoseconds

back one lookup time: 7.49025e+08 nanoseconds

10

Total lookup time: 2.6662e+09 nanoseconds

front one lookup time: 1.01572e+09 nanoseconds

middle one lookup time: 1.21345e+09 nanoseconds

back one lookup time: 4.37025e+08 nanoseconds

33%

1

Total lookup time: 5.89215e+09 nanoseconds

front one lookup time: 8.17622e+08 nanoseconds

middle one lookup time: 2.02452e+09 nanoseconds

back one lookup time: 3.05001e+09 nanoseconds

2

Total lookup time: 5.29986e+09 nanoseconds

front one lookup time: 6.98199e+08 nanoseconds

middle one lookup time: 1.89881e+09 nanoseconds

back one lookup time: 2.70285e+09 nanoseconds

3

Total lookup time: 5.77486e+09 nanoseconds

front one lookup time: 7.10445e+08 nanoseconds

middle one lookup time: 1.73881e+09 nanoseconds

back one lookup time: 3.32561e+09 nanoseconds

4

Total lookup time: 5.64334e+09 nanoseconds

front one lookup time: 6.63246e+08 nanoseconds

middle one lookup time: 1.94764e+09 nanoseconds

back one lookup time: 3.03246e+09 nanoseconds

5

Total lookup time: 5.69862e+09 nanoseconds

front one lookup time: 6.64201e+08 nanoseconds

middle one lookup time: 2.24171e+09 nanoseconds

back one lookup time: 2.79271e+09 nanoseconds

6

Total lookup time: 5.52624e+09 nanoseconds

front one lookup time: 7.3637e+08 nanoseconds

middle one lookup time: 1.73175e+09 nanoseconds

back one lookup time: 3.05812e+09 nanoseconds

7

Total lookup time: 5.12659e+09 nanoseconds

front one lookup time: 6.85837e+08 nanoseconds

middle one lookup time: 1.35345e+09 nanoseconds

back one lookup time: 3.0873e+09 nanoseconds

8

Total lookup time: 5.93228e+09 nanoseconds

front one lookup time: 6.90973e+08 nanoseconds

middle one lookup time: 1.83363e+09 nanoseconds

back one lookup time: 3.40768e+09 nanoseconds

9

Total lookup time: 5.81509e+09 nanoseconds

front one lookup time: 6.7263e+08 nanoseconds

middle one lookup time: 1.99574e+09 nanoseconds

back one lookup time: 3.14672e+09 nanoseconds

10

Total lookup time: 5.37287e+09 nanoseconds

front one lookup time: 7.12786e+08 nanoseconds

middle one lookup time: 1.71835e+09 nanoseconds

back one lookup time: 2.94174e+09 nanoseconds

平分三份-done

33%:

1

Total lookup time: 6.0924e+09 nanoseconds

front one lookup time: 2.93682e+09 nanoseconds

middle one lookup time: 9.58312e+08 nanoseconds

back one lookup time: 2.19727e+09 nanoseconds

2

Total lookup time: 2.79191e+09 nanoseconds

front one lookup time: 6.36242e+08 nanoseconds

middle one lookup time: 6.94259e+08 nanoseconds

back one lookup time: 1.46141e+09 nanoseconds

3

Total lookup time: 5.49619e+09 nanoseconds

front one lookup time: 7.1769e+08 nanoseconds

middle one lookup time: 2.76421e+09 nanoseconds

back one lookup time: 2.01429e+09 nanoseconds

4

Total lookup time: 4.6262e+09 nanoseconds

front one lookup time: 1.70268e+09 nanoseconds

middle one lookup time: 9.69879e+08 nanoseconds

back one lookup time: 1.95364e+09 nanoseconds

5

Total lookup time: 3.99278e+09 nanoseconds

front one lookup time: 6.77096e+08 nanoseconds

middle one lookup time: 1.38055e+09 nanoseconds

back one lookup time: 1.93514e+09 nanoseconds

6

Total lookup time: 4.22209e+09 nanoseconds

front one lookup time: 8.73718e+08 nanoseconds

middle one lookup time: 1.57421e+09 nanoseconds

back one lookup time: 1.77417e+09 nanoseconds

7

Total lookup time: 4.21398e+09 nanoseconds

front one lookup time: 1.45911e+09 nanoseconds

middle one lookup time: 1.11923e+09 nanoseconds

back one lookup time: 1.63563e+09 nanoseconds

8

Total lookup time: 3.2541e+09 nanoseconds

front one lookup time: 7.05194e+08 nanoseconds

middle one lookup time: 7.4008e+08 nanoseconds

back one lookup time: 1.80882e+09 nanoseconds

9

Total lookup time: 3.81469e+09 nanoseconds

front one lookup time: 7.56764e+08 nanoseconds

middle one lookup time: 1.22564e+09 nanoseconds

back one lookup time: 1.83228e+09 nanoseconds

10

Total lookup time: 4.50924e+09 nanoseconds

front one lookup time: 1.40589e+09 nanoseconds

middle one lookup time: 1.41631e+09 nanoseconds

back one lookup time: 1.68704e+09 nanoseconds

Total lookup time: 3.7905e+09 nanoseconds

front one lookup time: 1.01299e+09 nanoseconds

middle one lookup time: 8.97694e+08 nanoseconds

back one lookup time: 1.87982e+09 nanoseconds

80%

1

Total lookup time: 5.16691e+09 nanoseconds

front one lookup time: 1.43974e+09 nanoseconds

middle one lookup time: 1.42544e+09 nanoseconds

back one lookup time: 2.30173e+09 nanoseconds

2

Total lookup time: 6.95394e+09 nanoseconds

front one lookup time: 1.58224e+09 nanoseconds

middle one lookup time: 2.00537e+09 nanoseconds

back one lookup time: 3.36633e+09 nanoseconds

3

Total lookup time: 6.28952e+09 nanoseconds

front one lookup time: 1.88479e+09 nanoseconds

middle one lookup time: 1.84961e+09 nanoseconds

back one lookup time: 2.55512e+09 nanoseconds

4

Total lookup time: 5.45715e+09 nanoseconds

front one lookup time: 1.4925e+09 nanoseconds

middle one lookup time: 1.49852e+09 nanoseconds

back one lookup time: 2.46613e+09 nanoseconds

5

Total lookup time: 6.39117e+09 nanoseconds

front one lookup time: 1.45331e+09 nanoseconds

middle one lookup time: 2.10986e+09 nanoseconds

back one lookup time: 2.828e+09 nanoseconds

6

Total lookup time: 6.20921e+09 nanoseconds

front one lookup time: 1.62732e+09 nanoseconds

middle one lookup time: 1.82084e+09 nanoseconds

back one lookup time: 2.76106e+09 nanoseconds

7

Total lookup time: 7.60151e+09 nanoseconds

front one lookup time: 2.12458e+09 nanoseconds

middle one lookup time: 3.01617e+09 nanoseconds

back one lookup time: 2.46076e+09 nanoseconds

8

Total lookup time: 6.61844e+09 nanoseconds

front one lookup time: 1.45514e+09 nanoseconds

middle one lookup time: 2.37741e+09 nanoseconds

back one lookup time: 2.78589e+09 nanoseconds

9

Total lookup time: 7.34605e+09 nanoseconds

front one lookup time: 2.24313e+09 nanoseconds

middle one lookup time: 2.42563e+09 nanoseconds

back one lookup time: 2.67729e+09 nanoseconds

10

Total lookup time: 7.30479e+09 nanoseconds

front one lookup time: 2.47397e+09 nanoseconds

middle one lookup time: 2.36814e+09 nanoseconds

back one lookup time: 2.46267e+09 nanoseconds