

Compare the execution time with different thread number

Thread number	Execution time (s)
1	70.150
10	16.088
20	11.282
30	10.325
40	10.375
50	10.549
60	9.536
70	9.473
80	11.593
90	11.527
100	12.668

```

real    1m10.150s
user    1m9.849s
sys     0m0.200s

real    0m16.088s
user    1m42.383s
sys     0m0.407s

real    0m11.282s
user    1m49.122s
sys     0m0.610s

real    0m10.325s
user    1m50.775s
sys     0m0.801s

real    0m10.375s
user    1m52.277s
sys     0m1.512s

real    0m10.549s
user    1m53.980s
sys     0m1.280s

real    0m9.536s
user    1m53.184s
sys     0m1.585s

real    0m9.473s
user    1m53.619s
sys     0m1.720s

real    0m11.593s
user    1m55.419s
sys     0m2.866s

real    0m11.527s
user    1m56.314s
sys     0m2.418s

real    0m12.668s
user    1m56.642s
sys     0m2.766s

```

可以發現 thread number 和 execution time 非線性關係，thread number 在

70 附近時會有更好的結果。

Thread number	Instruction numbers	Performance counter stats for './hw4 X_train y_train X_test 1': 347,563,170,438 instructions:u
1	347563170438	Performance counter stats for './hw4 X_train y_train X_test 10': 347,612,678,393 instructions:u
2	347612678393	Performance counter stats for './hw4 X_train y_train X_test 20': 347,642,683,724 instructions:u
3	347642683724	Performance counter stats for './hw4 X_train y_train X_test 30': 347,672,856,814 instructions:u
4	347672856814	Performance counter stats for './hw4 X_train y_train X_test 40': 347,703,083,119 instructions:u
5	347703083119	Performance counter stats for './hw4 X_train y_train X_test 50': 347,733,191,941 instructions:u
6	347733191941	Performance counter stats for './hw4 X_train y_train X_test 60': 347,763,403,167 instructions:u
7	347763403167	Performance counter stats for './hw4 X_train y_train X_test 70': 347,793,597,815 instructions:u
8	347793597815	Performance counter stats for './hw4 X_train y_train X_test 80': 347,823,743,100 instructions:u
9	347823743100	Performance counter stats for './hw4 X_train y_train X_test 90': 347,853,903,152 instructions:u
10	347853903152	Performance counter stats for './hw4 X_train y_train X_test 100': 347,884,045,837 instructions:u
11	347884045837	

可以發現 thread number 變多時，instructions number 也會變高，結果呈現

正相關。