UID: 3035488160

COMP3230 – Tutorial 3 Exercise 1

```
chngai@workbench Desktop> ./hw1 1024000 16
Vector size=1024000     threads num=16.
[Singlethreading]start
[Singlethreading]The elapsed time is 1.20 ms.
[Multithreading]start
[Multithreading]The elapsed time is 0.85 ms.
Accepted!
chngai@workbench Desktop> ./hw1 1024000 8
Vector size=1024000     threads num=8.
[Singlethreading]start
[Singlethreading]The elapsed time is 1.19 ms.
[Multithreading]start
[Multithreading]The elapsed time is 0.79 ms.
Accepted!
chngai@workbench Desktop> ./hw1 1024000 4
Vector size=1024000     threads num=4.
[Singlethreading]start
[Singlethreading]The elapsed time is 1.24 ms.
[Multithreading]start
[Multithreading]The elapsed time is 0.75 ms.
Accepted!
chngai@workbench Desktop>
```

Performance advantage:

k	Singlethreading	Multithreading	ratio
16	1.20ms	0.85ms	0.7083
8	1.19ms	0.79ms	0.6639
4	1.24ms	0.75ms	0.6048

Multithreading is faster than singlethreading. Multithreading can run around 0.6x – 0.7x time when compare with single threading.