Question 1:

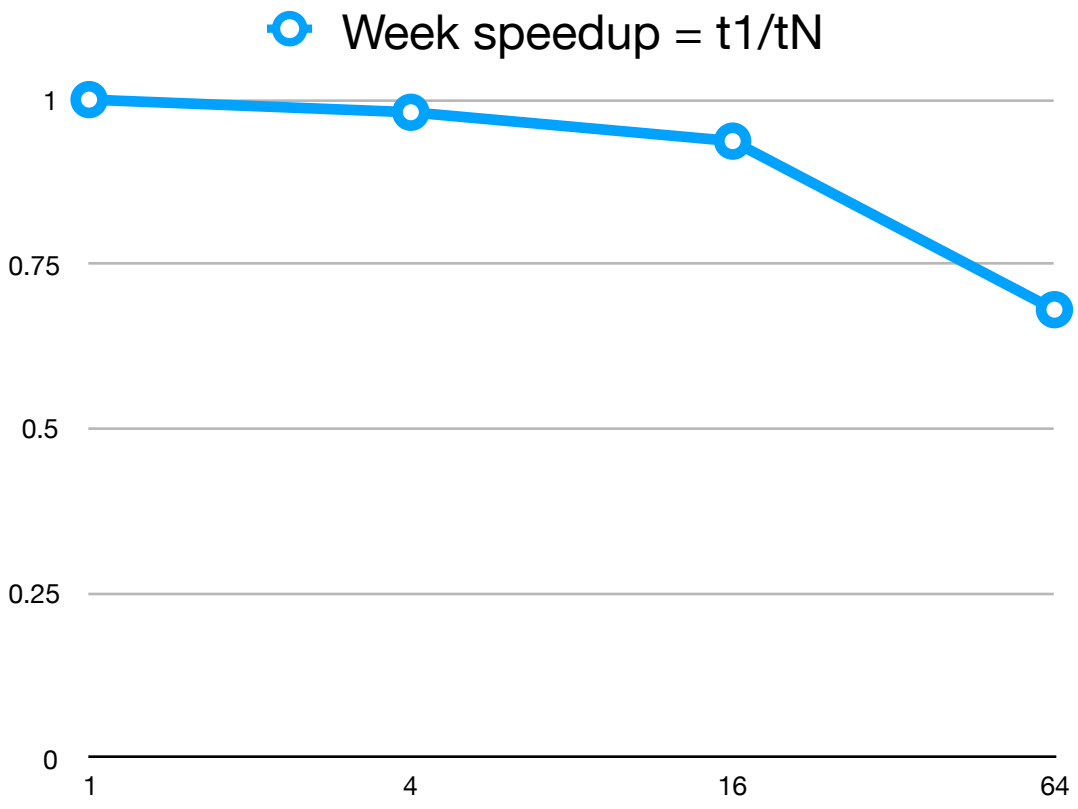
Weak scaling: Nl=100, iteration = 10000

```
mpirun -np 1 ./a.out 100 10000
Time elapsed is 1.401972 seconds.

mpirun -np 4 ./a.out 100 10000
Time elapsed is 1.429475 seconds.

mpirun -np 16 ./a.out 100 10000
Time elapsed is 1.496357 seconds.

mpirun -np 64 ./a.out 100 10000
Time elapsed is 2.059043 seconds.
```



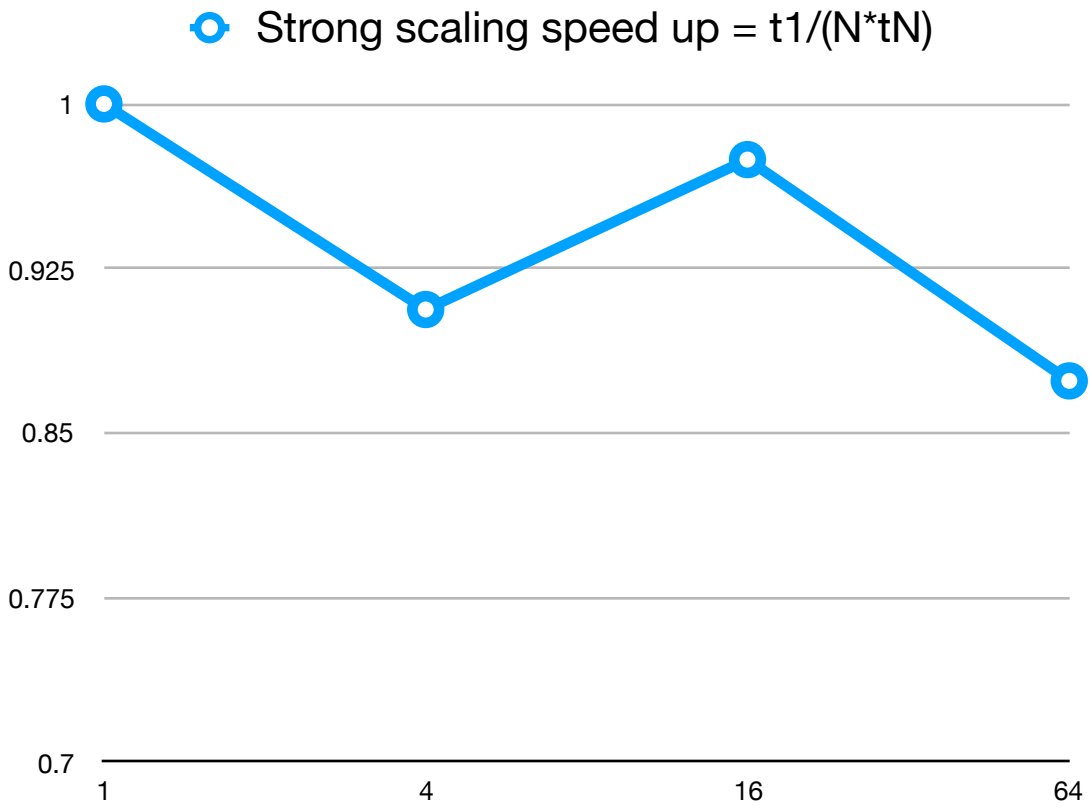
Strong scaling: N=sqrt(p)*Nl, iteration=10000

```
mpirun -np 1 ./a.out 1000 10000
Time elapsed is 146.859300 seconds.

mpirun -np 4 ./a.out 500 10000
Time elapsed is 40.510091 seconds.

mpirun -np 16 ./a.out 250 10000
Time elapsed is 9.417548 seconds.

mpirun -np 64 ./a.out 125 10000
Time elapsed is 2.626134 seconds.
```



Bonus question:

```
mpirun -np 1 ./a.out 100 10000
non-blocking: Time elapsed is 1.110320 seconds.
Blocking:     Time elapsed is 1.119759 seconds.


mpirun -np 4 ./a.out 100  10000
non-blocking: Time elapsed is 1.218900 seconds
Blocking:     Time elapsed is 1.176101 seconds.

mpirun -np 16 ./a.out 100  10000
non-blocking: Time elapsed is 1.303219 seconds.
Blocking:     Time elapsed is 1.290635 seconds.
```

Question 2:

n=10^4:

Average time elapse:
0.003061 s

n=10^5:

Average time elapse:
0.048484 s

n=10^6:

Average time elapse:
0.385443 s