HPC\_HW\_Chap2\_PartC

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Problem 2.16

a)

int n, p;

double Ts = n\*n;

double Tp = n\*n / p + log2(p);

double E = Ts / (p\*Tp);

The general conclusion from the above program is:

When n is fixed, speedup and efficiency decreases as p increases.

When p is fixed, speedup and efficiency increases as n increases.

b)

When parallel efficiency increases, it requires, which leads to:

And when efficiency decreases:

Problem 2.19

By solving the equation, we have,

Therefore, with p=8, k=2, we get:

Problem 2.22

We are able to tell how much time is spent on waiting out of the total time.

1. ???