High performance 4

Ex 3.

a) Which of these Algo's are best.

$n = 256$

| | $A_1$ | $A_2$ | $A_3$ | $A_4$ |
|---|---|---|---|---|
| $p$ | 65.5k | 8 | 256 | 16 |
| $T_p$ | 1 | 256 | 16 | 128 |
| $S$ | 2k | 8 | 128 | 16 |
| $E_p$ | $\frac{1}{2}$ | 1 | $\frac{1}{32}$ | 1 |
| $pT_p$ | 65,5k | 2k | 4096 | 2k |
| Rank | F | S+ | C | A |

b) Scalability ☺

$A_1$ & $A_3$ not scalable (look at (p))

$A_2$ & $A_4$ is better scalable ☺

note: look at processors (p) and cost ($pT_p$)

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Ex. 4

a) How much time does it take to find a solution.

We go right → 4 min

We go left → 12 max

b) 4 since one processor per side

$T_p = 4$ $pT_p = 8$ $T_S = 12$

$S = \frac{T_S}{T_p} = \frac{12}{4} = \frac{4}{1} = 4$

c) Left as an exercise for the reader