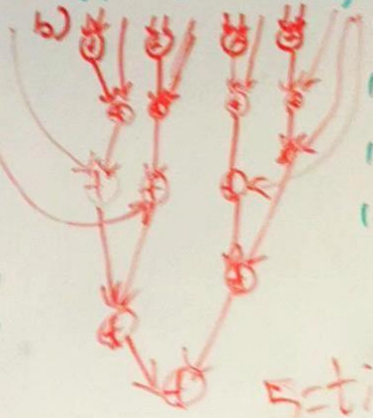
Ex 1

1

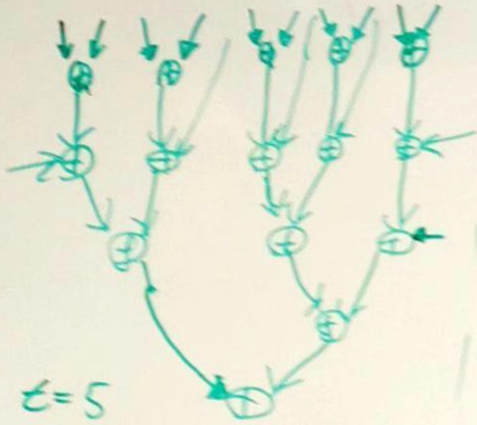
a) P_1

b) P_1 P_2 P_3 P_4



15 = tid

c)



t = 5

d)

t = 4

P = 8

se slide 36

e)

t = 4, P = 16

f) Speed-up:

$$S_p(n) = \frac{T_1^*(n)}{T_p(n)} = \frac{15}{5} \quad \text{for 4, 5 processors}$$

$$= \frac{15}{4} \quad \text{for 8, 16 processors}$$

g) Efficiency:

$$E_p(n) = \frac{S_p(n)}{p} = \frac{15}{4 \cdot 5} = \frac{3}{4}, \; 4P$$

$$= \frac{15}{5 \cdot 5} = \frac{3}{5}, \; 5P$$

$$= \frac{15}{8 \cdot 4}, \; 8P$$

$$= \frac{15}{16 \cdot 4}, \; 16P$$