Ex 3

Sunday, January 30, 2022 10:50 AM

(3) 3 processors, data partition

Data: abcfgv hbc dsb

1 2 3

Solution

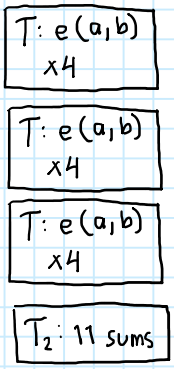
3 processors → 3 data partitions

abcf | gvhb | cdsb

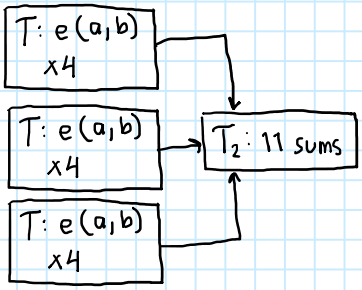
T: e(a,b) x4 — Task T receives 4 letters (that's why I put "x4")

Task T has 1 basic instruction that is executed on 1 data piece (4 letters) = 4 operations

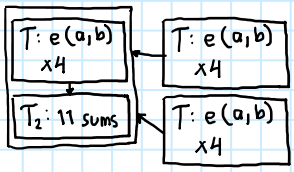
Partitioning



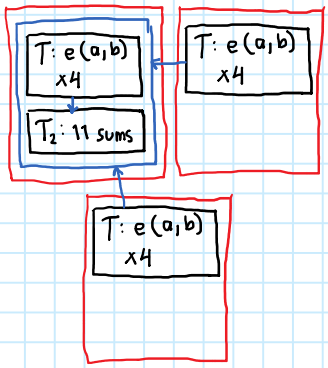
Communication



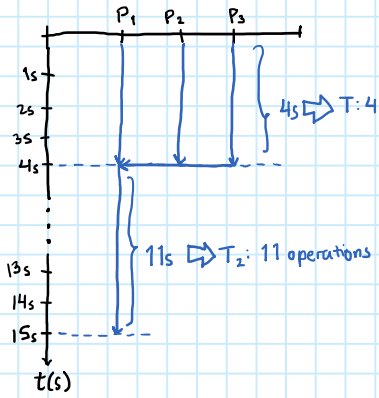
Union



Mapping



Time diagram: Assuming that 1 operation (==, +, -, *, /) takes 1s:



$t_{TOTAL} = \max\{P_1, P_2, P_3\}$

$t_{TOTAL} = \max\{15_s, 4_s, 4_s\}$

$t_{TOTAL} = 15_s$