

Improvement

March 9, 2023

1 Details

1.1 add

- clock: 2
- IC: 10

1.2 mul

- clock: 6
- IC: 3

1.3 add

- clock: 10
- IC: 1

2 Questions

2.1 If the clock cycle time remains unchanged, What will you improve to gain better performance? Why?

The load & store part, 'cause it has the biggest clock cycle among 'em.

2.2 If the clock cycles of the thing you have improved in the first question become 50% percent less, what will be overall improvement?

$$\text{before} = (2 * 10) + (6 * 3) + (10 * 1) = 48$$

$$\text{after} = (2 * 10) + (6 * 3) + (10 * 1) = 43$$

$$\text{improvement} = 100 - \left(\frac{43}{48} * 100\right) = 11\%$$