R-type → 50×10^6 instructions, 2 cycles
I-type → 30×10^6 instructions, 4 cycles
J-type → 20×10^6 instructions, 3 cycles

Total cycle numbers:
R-type : $50 \times 10^6 \times 2 = 100 \times 10^6$
I-type : $30 \times 10^6 \times 4 = 120 \times 10^6$
J-type : $20 \times 10^6 \times 3 = 60 \times 10^6$
} 280×10^6 total

I-type takes the most time, so we should improve it.

New total cycle number:

$120 \times 10^6 \times \frac{50}{100} + (280 \times 10^6 - 120 \times 10^6) = 220 \times 10^6$ cycles

$\frac{(280 - 220) \times 10^6}{280 \times 10^6} = \%\,21,42$ improvement