

EE3450 Hw1 - Question 1

總分 10/10 ?

Chapter 1 Computer Abstraction and Technology

0分, 共0分

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Question 1 (1.5)

10分, 共10分

Section 1.6

Consider three different processors P1, P2, and P3 executing the same instruction set. P1 has a 2.0 GHz clock rate and a CPI of 1.5. P2 has a 2.5 GHz clock rate and a CPI of 1.0. P3 has a 3.5 GHz clock rate and a CPI of 2.0.

✓ Which processor has the highest performance expressed in instructions per second? 3/3 *

P1

P2 ✓

P3

✓ If the processors each execute a program in 10 seconds, and the number of instructions of P3 is $N \times 1.0E+8$, find N. (The answer is an integer.) 3/3 *

175 ✓

✓ We are trying to reduce the execution time by 40% but this leads to an increase of 20% in the CPI. What clock rate (in GHz) of P2 should we have to get this time reduction? (Round off to the 2nd decimal place) 4/4 *

5 ✓

這份表單是在 清華大學 中建立。

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