##### CE450 – Computer Architecture I

Homework: Chapter 1b

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# Questions

1. How to measure a computer performance?
2. Suppose we have a program runs in 100 seconds on a computer, and the multiplication work takes 40 seconds. If we want the program to run 30% faster, how many seconds do we have to improve the multiplication work?
3. There are 2 computers. Computer A clock cycle time is 350ps, CPI is 3. Computer B clock cycle time is 400ps, CPI is 2.5. Which computer runs faster on same program?
4. There are 3 instructions types A B C, each instruction type CPI is A:4, B:2, C:3. If we have two programs, program 1 has 2 of A type instructions, 3 of B type instructions, 4 of C type instructions; program 2 has 3 of A type instructions, 4 of B type instruction, 3 C type instruction. Which program runs faster on the same computer?
5. Why does the computer microprocessor vendors switch to multi-processors?
6. What are the software factors which will affect the program performance?