Example pg 34

- Same program
  - Computer A CC 250ps and CPI 2.0
  - Computer B CC 500ps and CPI 1.2
- Which computer is faster and by how much?
- I is the number of instructions
- CPU clock cycles_A = I x CPI_A = I x 2.0
- CPU clock cycles_B = I x CPI_B = I x 1.2
- CPU_time_A = CPU_clock_cycle_A x Clock_cycle_time = I x 2.0 x 250ps = 500 x I ps
- CPU_time_B = CPU_clock_cycle_B x Clock_cycle_time = I x 1.2 x 500ps = 600 x I ps
- CPUperf_A / CPUperf_B = 600 / 500 = 1.2

Example pg 35

- A(1) B(2) C(3) cycles per instruction type
- Code 1: A(2) B(1) C(2)
- Code 2: A(4) B(1) C(1)
- Which code sequence executes the most instructions?
- Which will be faster?
- What is the CPI for each sequence?
- Code 1: 2+1+2 = 5
- Code 2: 4+1+1 = 6
- CPU clock cycles = sum_i=A,B,C (CPI_i x C_i)
- Code 1: 2x1 + 1x2 + 2x3 = 10 cycles
- Code 2: 4x1 + 1x2 + 1x3 = 9 cycles
- CPI_1 = CPU clock cycles / Instruction count = 10/5 = 2
- CPI_2 = CPU clock cycles / Instruction count = 9/6 = 1.5