CS 33003   # Exam #4   **CompOrg**

Wednesday 9 December 1998

1. Compare interrupts to subroutines. (12 points)

    a. In what ways are they similar?

    b. In what ways are they different?

2. Compare microprogrammed and hardwired control. (12 points)

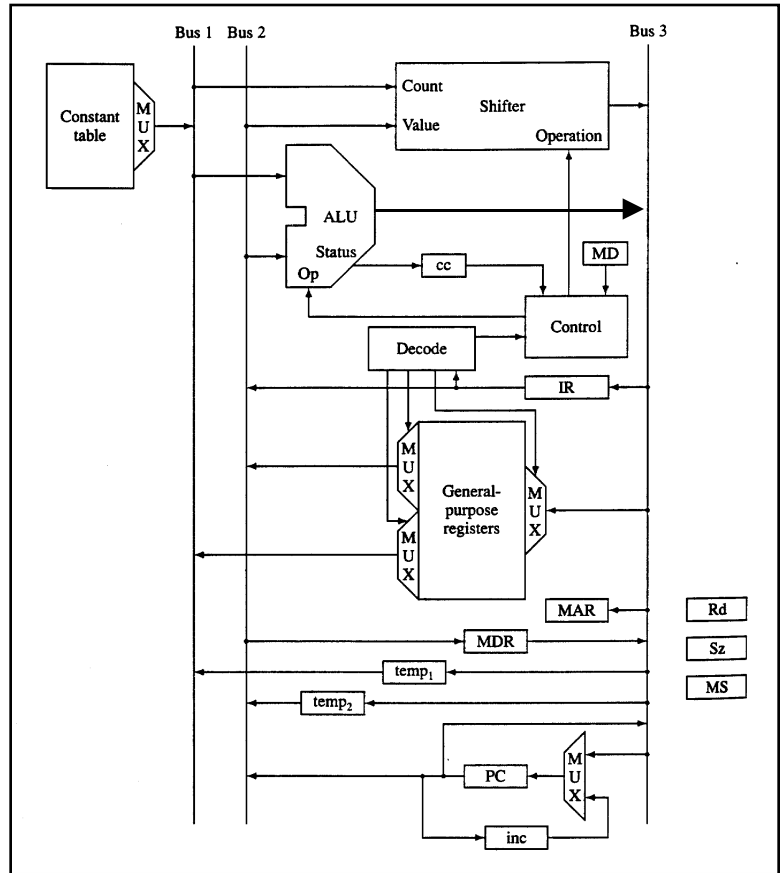   a. Which is faster, and why?

    b. Which is more flexible, and why?

3. Given the figure of the Chapter 9 simple machine shown at the right, explain how it is used to do the following: (24 points)

    a. Fetch an instruction

    b. Execute an "add" instruction

4. How do the level 1 cache, level 2 cache, and main memory compare in terms of size and access time? (12 points)

5. Briefly summarize one of the two methods for avoiding a write/read data hazard. (15 points)

6. Compared to a SIMD machine, why is a MIMD machine better suited for control parallelism, and less well suited for massive data parallelism. (10 points)

7. One of the principle items supported by an operating system is the process. (15 points)

    a. List some reasons why a process may be created.

    b. How does a process compare to a program?