CS 232 – Computer Architecture I
Rose-Hulman Institute of Technology
Computer Science and Software Engineering Department

Lab 3 Questions

Answer the following questions as completely as possible and hand in before leaving the lab.

1. Using the procedure handout, how many times is `fact` called?

2. Using the procedure handout, draw the state of the stack on the attached sheet when the instruction at address 0x0040008C is executed the first time.

3. What would happen if the line at `L1` of `fact` was omitted.

4. `main` in `fib.asm` uses `$s0` to store n and `$t0` to store fib(n). Why was a t register chosen in one case and an s register in the other?

5. `fib` in `fib.asm` uses s registers to store both n and fib(n). Could t registers be used? Which would you choose?

6. While calculating fib(5), how many times is `fib` called?

7. While calculating fib(10), draw the state of the stack on the attached sheet when the instruction `move $s1, $v0` is executed for the first time.

8. Remove the line at `skip` and run the program. What happened?