Lab 04

September 21, 2016

Install SPIM

SPIM is the MIPS simulator. You can download the appropriate installer here. After installing it, run helloworld.s in the SPIM simulator. Modify it from saying, "Hello World" to "Hello CSCI-2500."

MIPS translation

Re-write the snippet below in MIPS using `$t0` as the location holding `x`. Print out the result for initial values of `$t0` of 2, 4, 6, and 8. (It may be helpful to look at this page for help on printing out values.) This may require the `slt` (set on less than) and `beq` (branch equal) instructions and their counterparts. You may find the instruction reference from the front of your book useful.

```
if (x < 5) {
    x += 5;
}
```

Loops in MIPS

Now we will implement GCD in MIPS. Look at the second implementation (the one that uses subtraction and not `mod`). Using that algorithm and the reference card linked above, try and implement GCD using subtraction. You can hard-code the two values using `li` (load immediate) instructions before the routine begins. Make sure you use positive values smaller than 32,768. Print out the resulting GCD of the two values you entered.