CST250 Project 1: Simple Calculator

Learning Objectives:

- Become familiar with PLPTool features
- Use PLP arithmetic instructions
- Use PLP control flow instructions

The Task:

This lab will be done individually. Your program should start by loading the numbers 2015 and 250 into registers *$a0* and *$a1* respectively. The start of your program is a good place to initialize any other registers with values that you don't plan on changing inside the program. It should then have an infinite loop that performs two steps: reading the value of the switches and use control flow instructions to perform the indicated arithmetic operation. The result should be stored in register *$v0.* After doing this it should return to the start of the loop and repeat these two steps. If an undefined switch value is read (i.e. it is not one of the switch values given below), *$v0* should contain 0. Use the following switch convention:

Switch Number	Hexadecimal Switch Value	Binary Switch Value	Operation	Result ($v0)
0	`0x00000001`	`0b00000001`	*$v0 = $a0 + $a1*	2265
1	`0x00000002`	`0b00000010`	*$v0 = $a0 - $a1*	1765
2	`0x00000004`	`0b00000100`	*$v0 = $a0 * $a1*	503750
3	`0x00000008`	`0b00001000`	*$v0 = $a0* AND *$a1*	218
4	`0x00000010`	`0b00010000`	*$v0 = $a0* OR *$a1*	2047

Verify, using the *Watcher Window*, that the correct value is being placed in register *$v0* for each switch value.

Through all of this, remember that the goal is to become comfortable with PLP and play around with it. The goal isn't to just get this done as quickly as possible. Enjoy!

Deliverables:

1. Submit your program on blackboard with the format: lastname_project1.plp. (16 points)
2. Take the Post-Project 1 assessment (4 points)