LAB 8 MIPS

Re-submit Assignment

Due Apr 16 by 11:59pm **Points** 20 **Submitting** a file upload **File Types** pdf

MIPS Simulator.

MIPS is a reduced instruction set architecture. MIPS comes with its own assembly language. We are going to emit MIPS assembly code from our Cminus compiler. This lab is to get you oriented around the MIPS simulator

The MIPS simulator and documentation is available at source forge at **http://spimsimulator.sourceforge.net/** **(http://spimsimulator.sourceforge.net/)** There is a Linux version called ***xspim***

You can run your simulator on qtSpim on you home windows PC or ***xspim*** in the lab.

This lab should be fairly straight forward. The goals of this lab are:

1) To ensure that you are able to run a MIPS simulator

2) For you to understand the basics of the MIPS instruction set

3) For you to know where to look for information on the MIPS instruction set.

In general, we are going to use a very small subset of the MIPS instruction set. You can find a really detailed description of MIPS on **Wikipedia.** **(http://en.wikipedia.org/wiki/MIPS_instruction_set)**

Additionally the following resources will be handy for this exercise along with the final portion of our compiler.

MIPS op code **HERE** and **HERE** (two different presentations of the same information)

Additionally, here is a easy web site for the syscall function for calling READ and WRITE.

http://logos.cs.uic.edu/366/notes/mips%20quick%20tutorial.htm **(http://logos.cs.uic.edu/366/notes/mips%20quick%20tutorial.htm)**

Reminders on the simulator:

A) Make sure you reinitialize each time   Simulator->Reinitialize

B) Make sure your reload the file each time File->Load

C) The console may not pop up, you may have to view it   Window -> Console

Your tasks:

1) download this **MIPS FILE**

2) Run the file on the simulator. You should get a console output like **this**

3) You are to document the MIPS file to describe what is done

4) You are to update the file so that it does the following Run your code with "19"

a) Prompts for an input value

b) reads an input value, that is used for the upper bound instead of 100

c) Output the correct numbers (including the statement about 100) **Here is my copy with 20**

Deliverables

1) Your documented original mips codes

2) Your documented new mips code

3) A screen shot of the new mips OUTPUT