YORK UNIVERSITY

LASSONDE SCHOOL OF ENGINEERING

EECS 2021 Computer Organization

Fall 2015

Project 1: MIPS Simulator

In this project, you will write a simple simulator for a subset of MIPS instruction set as defined in 'Computer Organization and Design: The hardware/Software Interface" 5th Edition, Patterson and Hennessy.

This project is worth 2 labs.

You can use C or Java. The input to your simulator is a file that contains the executable code and memory location.

Every line in the input file is 2 HEX numbers separated by a space. The first is the memory address where the instruction is, and the second is the instruction.

Your simulator should read the instructions one by one and execute them. Execution of the instructions means changing the contents of registers (no memory load or store in the table below). Your simulator should run the program until the end of the file (executable binary).

Your simulator should be able to execute the following instructions:

sll	srl	addi	add	and
slt	sltu	beq	bne	nor

If the input file contains any other instruction, your simulator should print "illegal instruction" and quits.

I will post on the course web site details about submission and test cases.