CSC244 Digital Logic
Project 2 Processor
Extra Credit

Do not attempt this until you have a fully functioning processor. You must first demonstrate your working base Project 2 before you can receive any extra credit.

You can earn up to 10 points extra credit for each of the following:

(i) add a 1024×10-bit random access memory (RAM) to store and load data to/from the register file; For the RAM, you will need to add the instructions in the Table below.

(ii) Replace loading instructions from the data wires with a program read-only memory (ROM). hint: you may also need to count the current spot in the program using a program counter.

You must complete the demo of the original processor, demonstrate the extra credit, and describe the extra credit in the report to receive any points.

Opcode	Mnemonic	Instruction
00_XX_YY_1100	ldr Rx, *Ry	Load the data stored in RAM at the 10-bit address stored in Ry to register Rx
00_XX_YY_1101	Str *Rx, Ry	Store the data from Ry into RAM at the 10-bit address stored in Rx