**PROJECT Intro to MIPS assembler (part 3)**

**Objective** To examine various topics concerning the assembly language.

***PROJECT DESCRIPTION***

To allow user input in a MIPS program.

***Information About this Project***

Complete / modify the asm program that allows for the evaluation of a quadratic polynomial.

***Steps to Complete this Project***

**STEP 1 Runa Program in MARS!**

Open MARS go to your menu and start a new assembly ( .asm ) file by clicking on File > New.

Paste in the code that follows.

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| #Evaluate the expression: 4x^2-8x+2  .data  prompt: .asciiz "Enter an input for x to evaluate 4x^2 - 8x +2: "  output: .asciiz "The output is "  .text  main:  li $v0, 4 #output the prompt for user  la $a0, prompt  syscall    li $v0, 5 #input the number and save it to $s0  syscall  move $s0, $v0    #square the input  #lw $t0, ($s0)  mul $t0, $s0, $s0  #multiply by 4  mul $t0, $t0, 4  #multiply input by -8  #lw $t2, ($s0)  mul $t2, $s0, -8  #add it all  add $t0, $t0, $t2  add $t0, $t0, 2    li $v0, 4 #print the output label  la $a0, output  syscall    li $v0, 1 #output the number that was entered  move $a0, $t0 #could also use lw $a0, $s0. Pseudo code  syscall    li $v0, 0xB  #print newline, 0xB = 11   #which is the system call to print a single character  la $a0, 0xA #0xA is the newline char  syscall    li $v0, 10 #exit program  syscall |

**STEP 2 Run and Test your program**

Test the asm program with user input.

**STEP 3 Modify your program**

Modify the program that will test whether or not the expression evaluates to a negative or positive number.

**STEP 4 Show resulting runs**

Snapshot 2 sample run results (one for showing a positive evaluation and the other showing a negative result) into MS Word along with your modified source for credit.