Homework 1

Introduction to Assembly

The following problem set is worth 100 points. Please submit a zip file containing all source code I need to run your assignments using **QtSPIM**. Code will be graded on elegance and correctness.

Problem 1: Reverse Concatenation Problem (20pts)

For this problem, you will write a MIPS program that will ask the user for two strings. You will then print out a string containing the concatenation of the second string and the first string (in that order.) As an example, if "Hello" and "World" were inputted by the user in that order, you will output the "WorldHello".

Save your solution in the file named **concat.asm**.

Problem 2: Volume Problem (20pts)

Write a MIPS program which asks the user for the radius of a sphere. Your program will then output the volume of the sphere. If the user enters a negative value for the radius of the sphere, output an error message. Assume the radius of the sphere is a floating-point number.

Save your solution in a file named **volume.asm**.

Problem 3: Even Odd Problem (20pts)

Write a MIPS program that asks the user for an integer value. Your program will output "EVEN" if the value is even and "ODD" if the value is odd.

Save your solution in a file named **evenodd.asm**.

Problem 4: Zero Division Problem (20pts)

Write a MIPS program that will ask the user for two integers *a* and *b*. Your program will output the integer division result of *a / b* if *b != 0*. Your program should output "ERROR" if otherwise.

Save your solution in a file named **zero.asm**.

Problem 5: High Low Problem (20pts)

Write a MIPS program that will take in two integers from the user. Your program should output which of the two numbers is larger than the other.

Save your solution in a file named **highlow.asm**.

Submission Requirements

Please submit a zip file containing all source code I need for testing before the closing of the Canvas drop box.