CSCE-231/2303 Spring 2020
Assignment 2: MIPS Programming

Assigned: Monday, 17-2-2020

Due: Monday, 24-2-2020

Delayed submission with penalty until Wednesday, 26-2-2020

Goals

This assignment is an individual assignment and you will work on it on your own. The goal of this assignment is to write code for small basic functionalities using the MIPS assembly language.

Details

You are required to write the following programs:

1. Write an assembly program that finds the maximum and minimum elements in an entered integer array.
2. Write an assembly program that checks whether the input number is even or odd and if odd check whether it is prime or not.
3. A palindrome is a string that reads the same backwards as forwards. For example, abcba, 1221, 55555 ...etc. Write an assembly program that reads a string and its size and check if it is palindrome or not.
   If the input string is not a palindrome, Output a palindrome that is produced by changing the minimum possible number of characters. Changing a character means replacing it with any single character at the same position. You are not allowed to remove or add any characters.
   Sample Testcase
   Input: ameba
   Output: 1, abeba

What to submit

1. Your full in-line documented source code.
2. A PDF report that includes any assumptions you have made and your design approach to implement the program.
3. Your code should run on the MARS simulator.
4. Screenshot from your running programs.

How to submit:

Compress all your work: source code, report, readme file, and any extra information into a zip archive. You should name your archive in the specific format <Student_ID>_<Name>_Assignment2.zip. Finally, upload your code to blackboard.

Grade

This assignment is worth 2% of the overall course grade. The assignment will be graded on a 100% grade scale, and then will be scaled down to the 2% its worth. The grading of the assignment will be broken down as follows:

1. 10 % for just submitting a meaningful assignment before or on the due date. This 10% does not account for the correctness of your assignment but submitting an empty assignment without code will definitely result in loosing this 10% and consequently the whole grade of this assignment.
2. 65 % for the correctness and the quality of your code.
3. 25 % for the quality of your inline documentation and the readme file.

Delays

You have up to 2 working days of delay, after which the assignment will not be accepted and your grade in that case will be ZERO. For every day (of the 2 allowed days), a penalty of 10% will be deducted from the grade. And of course you will lose the 10% mentioned in point 1 above under the "Grade" section.