BIRZEIT UNIVERSITY

Department of Electrical and Computer Engineering

Computer Architecture – First Project

Second Semester 2019/2020

Deadline: Monday 30/3/2020

Instructions:

- It should be an Assembly program, written entirely from scratch by you, satisfying the requirements specified below.
- It is very important that you write easily readable, well-designed, and fully commented code [You must organize your code using procedures].
- No late submission will be accepted.
- Use MARS emulator to run your code. MARS homepage: http://courses.missouristate.edu/KenVollmar/MARS/
- Work in a group of at most two students.
- Submit your project (code) on Ritaj as a reply to this message.
- The discussion of the project will be on the copy sent on Ritaj.

Project Description:

In this project, you will write a MIPS code to simulate well-known Linux command such as echo, grep, wc, and pipes. The code must pass into three stages as follows:

First: you need to define two variables: File_name and String_name.

Second: the program asks the user to enter the command. The command can be one of the following cases or similar:

1. File_name=input.txt # assign the name of the file
2. String_name=xyz # assign the string to search
3. echo ‘‘Hello, World!’’
4. wc -l $File_name
5. wc -w $String_name
6. grep $String_name $File_name
7. echo “There are ‘wc -l $File_name’ lines in $File_name’”
8. echo “There are ‘wc -w $String_name’ words in $String_name’”
9. echo “There are ‘grep $String_name $File_name | wc -l’ lines containing ‘$String_name’ string”

Third: the program prints the result of the command or print an error message if there is an error in the command.