EE 5201 - Computer Architecture

Assembly Programming

H. Asela
Department of Electrical and Information Engineering
University of Ruhuna

Task 1

Write an Assembly program to print “Hello World!” to the console

Task 2

Write an Assembly program to get your name as input and then print it to the console

Unconditional Jump in Assembly

The **JMP** instruction transfers control unconditionally to another instruction.

It provides a label name where the flow of control is transferred immediately.

Syntax is as follows:

JMP *label*

JMP corresponds to ***goto*** statements in high-level languages.

Conditional Jumps in Assembly

In assembly, all branching is done using two types of instruction:

- A compare instruction **CMP** which compares two values. Internally, it does this by subtracting them.
- A conditional jump instruction which jump somewhere if the two values satisfy the right condition.

Instruction	Description
JE	Jump if cmp is equal
JNE	Jump if cmp is not equal
JG	Jump first value is greater than second value
JGE	Jump first value is greater or equal than second value
JL	Jump first value is less than second value
JLE	Jump first value is less or equal than second value

Task 3

Write an Assembly program to check if the value in EAX register is 1. If so, the program should print “EAX values is equal to 1” to the console. Otherwise it should print “EAX values is not equal to 1” to the console.

Thank you!