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Lab 4: Flow Control

# Objectives:

* The definition of the unconditional jump
* The definition of the conditional jump
* Learning new pseudo instructions
* If statement in assembly
* Loops in assembly

# Introduction:

We learned the definition of the unconditional jump where the user can go any where in the code using the labels, and we talked about the conditional jump by using the MIPs instructions with comparisons, and we fund that there is some derived pseudo instructions from these implemented instructions, finally we learned how we can make semi- loops and if statements in assembly.

# Tasks:

Task1 Requirement: reading number and decide if it is negative of positive and if odd or even or it is zero

Approach: firstly, we check if it is zero then jump to the last label if it is true, then check if it is less or greater then zero then go to another label to check if it is odd or even, and we do the same if it is less.

Task2 Requirement: reading 5 integers using loop and sum them together.

Approach: firstly, we make loop that stop at number 4, then put the value of one variable to 0 then iterate it, and inside the loop we print the statements and read the integer and save it to another variable as addition to the existed value, and when the first variable reaches 4 we exit the loop and print the sum statement.

# Conclusion:

Firstly, we learned the definitions and the difference between the conditional and unconditional jumps, then learned some important pseudo instructions, and learned to do an if statement and loop in assembly and how it possible then tried live example to get used to the syntax.