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Lab 8: Floating-Point

# Objectives:

* The standard representation of the floating-point numbers
* The importance of the coprocessor 1
* The instructions of the floating point
* How use the branching instructions with floating point
* The registers of the floating point
* The proper way to use the floating-point registers

# Introduction:

We learned how the floating point represented in the MIPs and in what standard, and we learned the specified instructions for the floating point and how it can be similar to the integer instructions then we discussed about the coprocessor 1 and its usage in the floating-point operations.

# Tasks:

Task1 Requirement: reading two floating point and do arithmetic on them

Approach: firstly, we read the two specified floating-point numbers then we divide them and compare them if it is positive then multiply by 8 then take the square root and if it is less than 0 then we multiply by -1 and take the root then multiply by 3.14

Task2 Requirement: reading 12 floating point then find the average of them

Approach: we create a loop that read the 12 floating point and add them to each other like the integer numbers and then at the finish of the loop we move the integer 12 to the c1 and then make it floating point then we divide and find the average

# Conclusion:

Firstly, we learned the definitions of the floating point and how it is used in ieee 754 and the two possible ways to represent it as double or single floating point, then we saw the floating-point instructions and it is used differently, then we did a live example which helped to understand the subject in better way.