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Lab 7: MIPS Functions and stack Segment

# Objectives:

* Know the caller and callee functions
* Know how to declare execute and return from function
* The usage registers
* The usage of the stack segment
* Doing recursive functions

# Introduction:

We learned in previous labs how determine the caller function and the callee function in code and how to implement it in MIPs then we learned how to make a function and how to call it and execute it properly and then we learned how to use the stack segment and the recursion.

# Tasks:

Task1 Requirement: read and return specific number of integers in reverse

Approach: firstly, we code the function read to read the numbers and save it in the stack segment without changing anything since the address is already provided, then we code the print function to see if it works properly then we code the reverse the integers in the stack and it can be done by several ways.

Task2 Requirement: recursive Fibonacci number function

Approach: as it is known, the best approach for this task is using recursion method that that calculate the tow numbers before the specified number and sum them together, the function work by finding the first number the call the same function again for the two previous numbers then add then then return it as result

# Conclusion:

Firstly, we learned the definitions and the difference between the caller function and the callee function and how to write the functions in the right conventions that meet the usage of MIPS, then we learned how to jump to specific function and how to deal with it then we moved to the stack segment and how and when it is used then we implemented recursive function in MIPS.