EXERCISE

In this lab you have to explain, each register(floating, vo-v9) and their purpose, each segment, (.code,.text,.main,. .global) and their purpose.

REGISTERS:

1. **$v0-$v1**: Used to define syscall code, and to return values from a function.

2. **$a0-$a3**: Used to pass arguments to syscalls and user-defined functions.

3. **$t0-$t9**: Temporary registers that are used for various purposes such as, arithmetic and logical purpose. The values of these registers are not saved between function calls.

4. **$s0-$s7**: Saved registers also used for various purposes such as, arithmetic and logical purpose. The values of these registers are saved between function calls.

5. **$ra**: It is used to store the return address for a function to return back to.

6. **$sp**: It is the stack pointer and used for storing various values in a stack.

7. **$f4-$f11**: Floating-point registers that are also used for various purposes.

8. **$f12**: Used for passing floating point argument to syscalls for printing.

SEGMENTS:

1. **.data**: Used for declaration of all the variables that the program will use.

2. **.text**: Used for writing all the instructions of the program.

3. **.globl**: If you're working with multiple files, by specifying .globl with functions, you can reference those functions in other files.

4. **main**: The program execution begins from the main label.