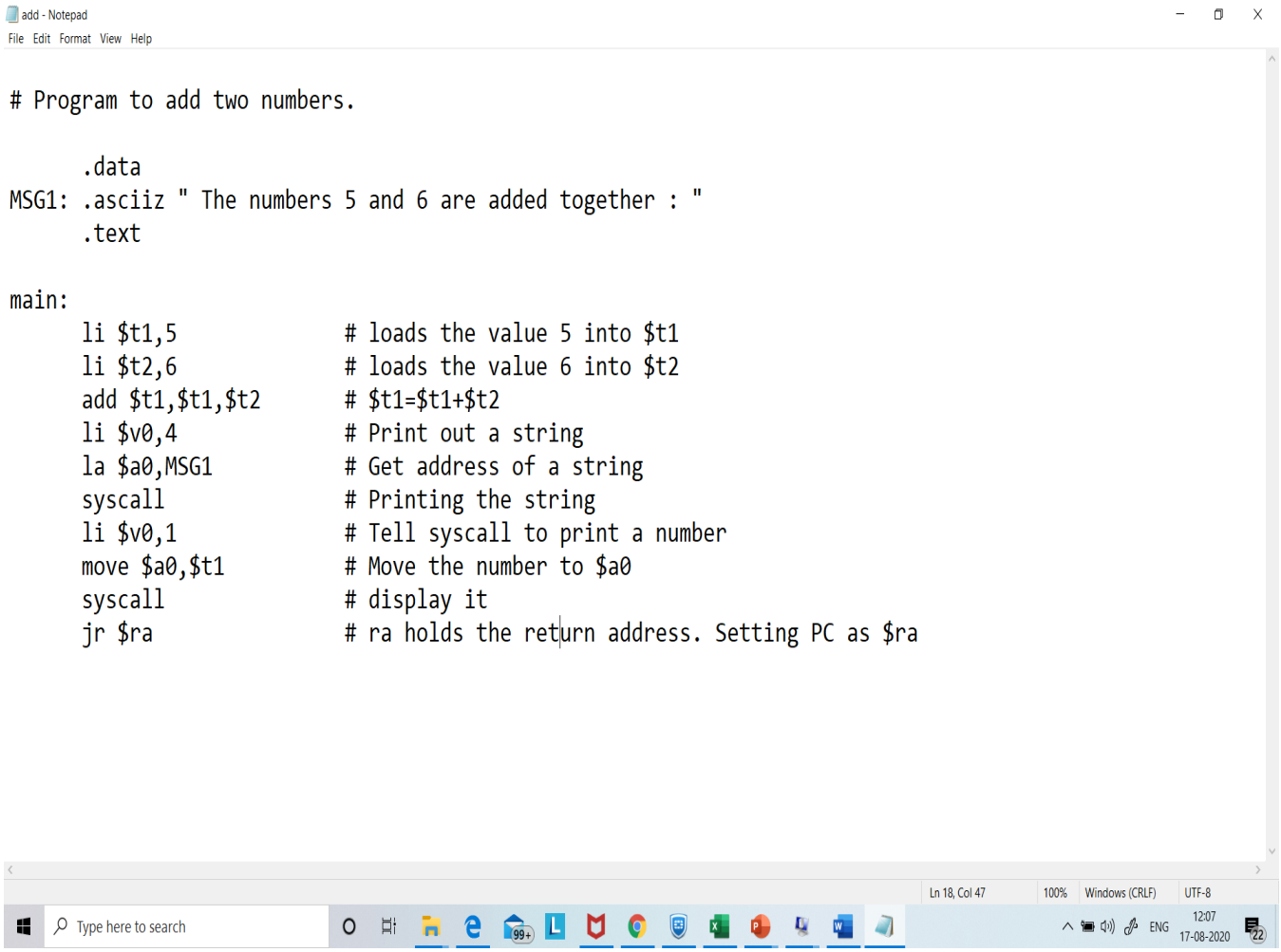
First Program

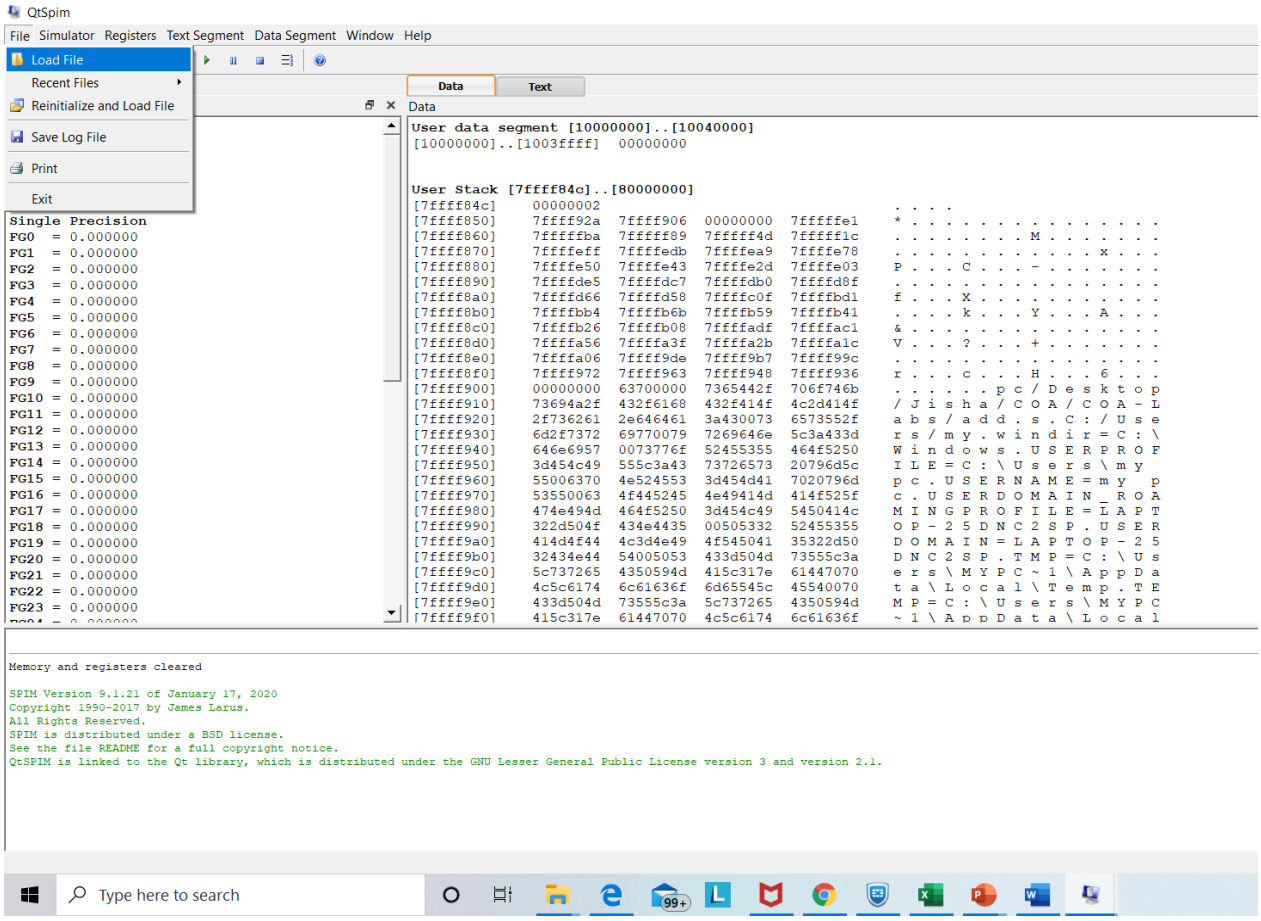
Step 1 : Save the following code in a Notepad file with '.s' extension.

```
# Program to add two numbers.

    .data       #.data section is required so as to initialize ordinary data, in this case it is a message
MSG1: .asciiz " The numbers 5 and 6 are added together : "  # MSG1 is a label then it is followed by
                                                            data type .asciiz, followed by message to
                                                            be printed on to the console window
    .text               # It is the place where you start writing source code in the program

main:           #Every execution of the MIPS program  starts with main  label followed by colon
    li $t1,5            # loads the immediate value 5 into $t1,t1 is a temporary register and $t1 indicates
the content of that register]
    li $t2,6            # loads the immediate value 6 into $t2,t2 is another temporary register and $t2
indicates    the content of that register]

    add $t1,$t1,$t2     # $t1=$t1+$t2 # Adding the contents of the register t1 and t2 and finally
putting the content to destination register t1 itself
    li $v0,4            # Print out a string   , Special register v0 to print anything to the console. If value 4
is passed, we are printing a string to the console
    la $a0,MSG1         # Instruction is load address, that means it is  now pointing to the MSG1.ie,Get
address of a string MSG1 into a0 as content. ao is another special register used for this purpose.
    syscall             # Printing the string from a0 to the console
    li $v0,1            # Print out a integer   ,Special register v0 to print anything to the console. If value 1
is passed, we are printing a integer to the console

    move $a0,$t1        # Move the number to a0 from the destination register t1, since t1 now
contains the result of addition
    syscall             # display the integer
    jr $ra              # ra is a sprcial register which holds the return address. Setting Program Counter
as  $ra,   Return  Address Content
```

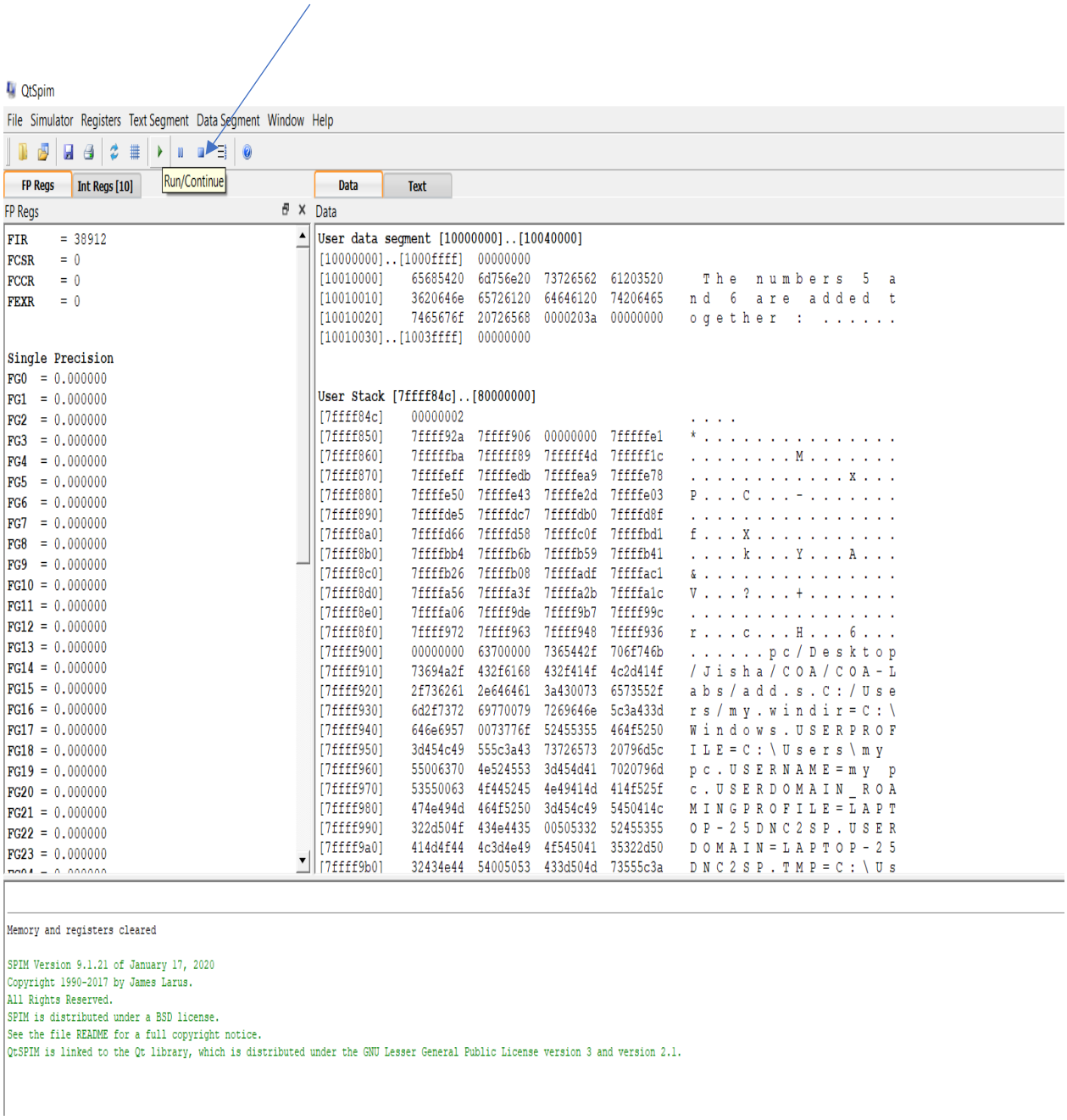
Program in Notepad



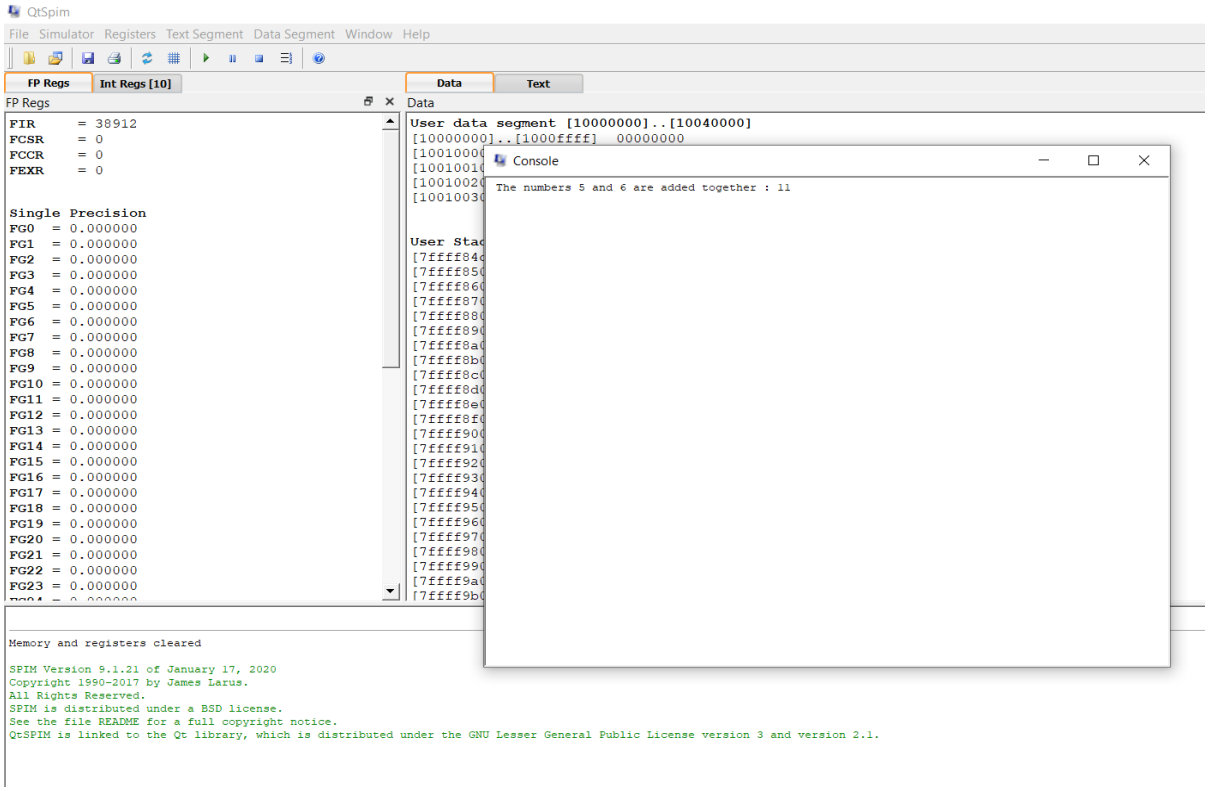
Step 2 : Open QtSpim simulator and load the file .



Step 3 : Run the program . See the screenshot .



Step 4 : You will get the following Console Window.



****