Objective

Write a MIPS Assembly program to accept a number N and print the sum of all numbers from 0 to N. The program should display the message "Enter the number of choice" while asking for the input. If the user enters a number less than 0 display an error message: "Error: Number less than or equal to 0!!".

Assembly Source Codes

```
#program to calculate sum of numbers
.data
num : .asciiz "\nEnter the number of your choice:\n"      #stored in the global data beacause of the .data
sum : .asciiz "\nThe sum is:\n"                           #asciiz makes it an string
err : .asciiz "\nError: Number less than or equal to 0!!\n"
.text                                                     #Stored in the program section
la $a0,num
li $v0,4
syscall                                                   #syscall to print after the li
li $v0,5
syscall
move $s0,$v0 ##s0 has the number


move $s1, $0 # i = 0, counter
move $s2, $0 #initialize sum=0




blt $s1,$s0,end2 #while i!=num
la $a0,err
```

```
li $v0,4
syscall
j exit

end2:



#loop to calculate sum until number
loop:                                   #label
add $s2,$s2,$s1 #sum = sum + i
addi $s1,$s1,1 # i=i+1
bgt $s1,$s0,end #while i!=num
j loop
end:
la $a0,sum
li $v0,4
syscall
li $v0,1
move $a0,$s2
syscall
exit:
li $v0,10                               #exit program
syscall
```

Screen shot of the results

```
Enter the number of your choice:
5

The sum is:
15
-- program is finished running --
```

```
Enter the number of your choice:
-2

Error: Number less than or equal to 0!!

-- program is finished running --
```

Conclusion and References

After adding a branch to ensure that the number is never less than 0, the program works as intended.