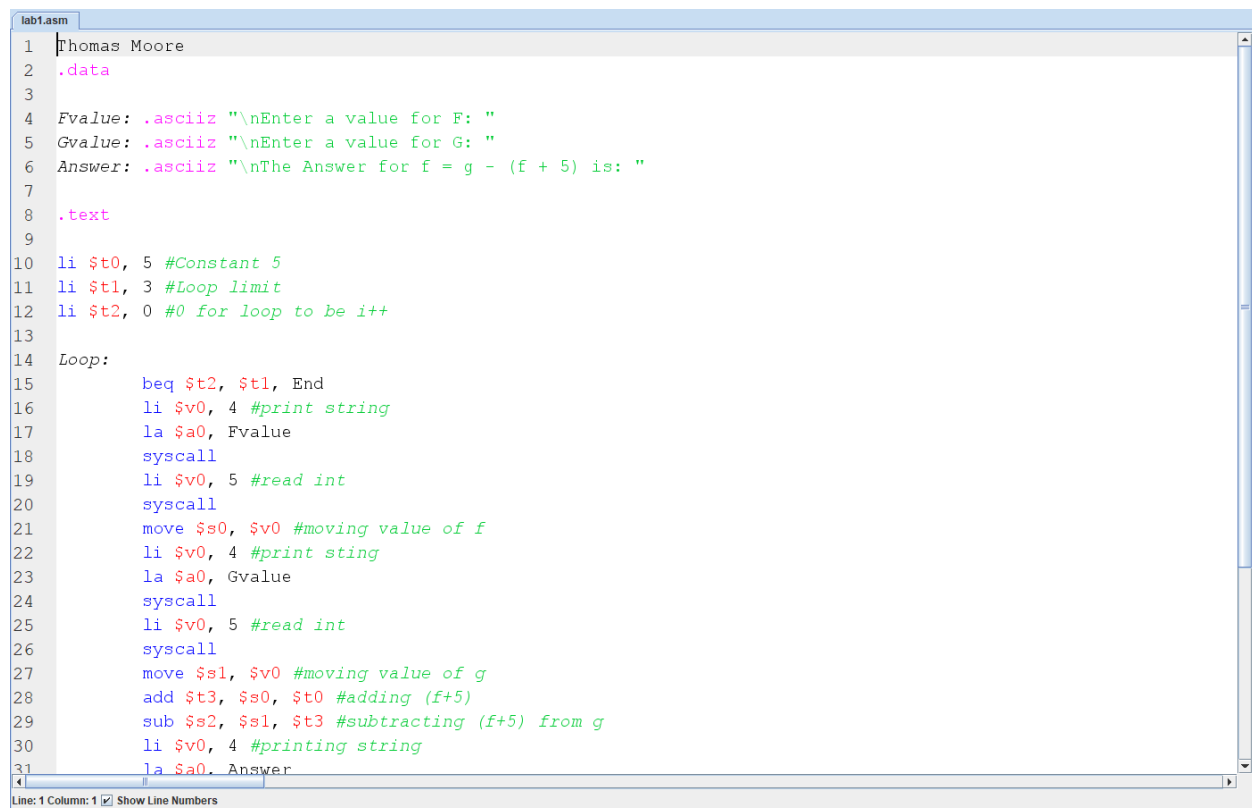CS-35101
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Summary:
I implemented the project using a single loop using several registers to store temporary and constant data. I kept track of which registers held what data in the code using comments and using saved registers for holding final values while using temporary registers for mathematical operations. I would then move those values into the registers meant for holding values and results to print the final computation and appropriate string.

Conclusion:
The main problem I faced was figuring out how to properly use system calls and understanding that the services are separated for printing and reading as well as by types such as int, string, or float. I think the most important lesson I learned is that the argument registers can have specific rules such as $a0 being used to print integers. The second lesson I learned is the importance of the "move" function and its properties.

lab1.asm

```
1    Thomas Moore
2    .data
3
4    Fvalue: .asciiz "\nEnter a value for F: "
5    Gvalue: .asciiz "\nEnter a value for G: "
6    Answer: .asciiz "\nThe Answer for f = g - (f + 5) is: "
7
8    .text
9
10   li $t0, 5 #Constant 5
11   li $t1, 3 #Loop limit
12   li $t2, 0 #0 for loop to be i++
13
14   Loop:
15          beq $t2, $t1, End
16          li $v0, 4 #print string
17          la $a0, Fvalue
18          syscall
19          li $v0, 5 #read int
20          syscall
21          move $s0, $v0 #moving value of f
22          li $v0, 4 #print sting
23          la $a0, Gvalue
24          syscall
25          li $v0, 5 #read int
26          syscall
27          move $s1, $v0 #moving value of g
28          add $t3, $s0, $t0 #adding (f+5)
29          sub $s2, $s1, $t3 #subtracting (f+5) from g
30          li $v0, 4 #printing string
31          la $a0, Answer
```

Line: 1 Column: 1 ☑ Show Line Numbers

```
31          la $a0, Answer
32          syscall
33          move $a0, $s2 #moving answer to $a0
34          li $v0, 1 #print int
35          syscall
36          add $t2, $t2, 1
37          j Loop #jump to top of the Loop
38  End:
39          li $v0, 10 #terminate
40          syscall
41
```

Line: 1 Column: 1 ☑ Show Line Numbers

Mars Messages **Run I/O**

```
Enter a value for F: 2

Enter a value for G: 10

The Answer for f = g - (f + 5) is: 3
Enter a value for F: 10

Enter a value for G: 20

The Answer for f = g - (f + 5) is: 5
Enter a value for F: 10

Enter a value for G: 10

The Answer for f = g - (f + 5) is: -5
-- program is finished running --
```