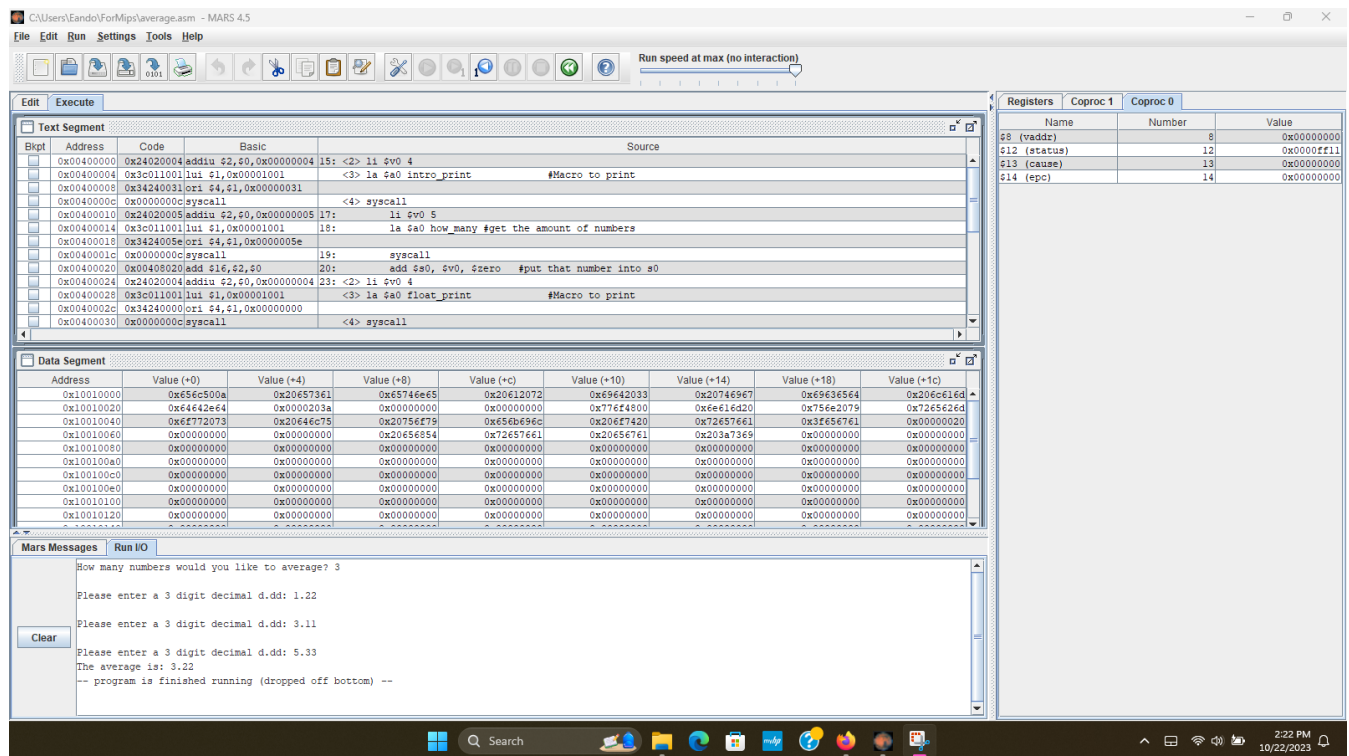


Ean Dodge

```
1. .macro print (%problem)
2. li $v0 4
3.     la $a0 %problem      #Macro to print
4.     syscall
5.     .end_macro
6.
7. .data
8. float_print: .asciiz "\nPlease enter a 3 digit decimal d.dd: "
9. float_input: .space 10
10. intro_print: .asciiz "How many numbers would you like to average? "
11. how_many:    .space 10
12. result:      .asciiz "The average is: "
13. .text
14.
15. print(intro_print) #print intro
16.
17. li $v0 5
18. la $a0 how_many #get the amount of numbers
19. syscall
20. add $s0, $v0, $zero #put that number into s0
21.
22. loop:
23. print(float_print)
24. li $v0 6      #read in a float
25. la $a0 float_input
26. syscall
27.
28. add.s $f2, $f2, $f0 #add up all of the inputs
29.
30.
31. addi $s1,$s1, 1
32. bne $s0, $s1, loop #loop for the amount of numbers the user wanted to input
33. mtc1 $s0, $f1 #switch the number of inputs to a float register
34.
35.
36. cvt.s.w $f4, $f1 #switch it to a float number
37.
38. div.s $f12, $f2, $f4 # divide the sum by the number of inputs
39.
40. print(result)
41. li $v0 2 #print out the result
42. syscall
```

## Summary:

The first piece of code is a macro to print a string. I use this to print my intro statement and my prompts. Data is full of prompts and input variables. In the text section, it starts with the intro prompt to see how many inputs the user wanted to average. I put in code to input an integer of how many variables. This will later be changed to a floating number. I create a loop to run the number of inputs the user wants to put in. I print the prompt, then read in a float. I have to use \$v0 6 to read in a floating number. This number will be automatically stored into \$f0, so I use \$f2 and keep adding the numbers up every time I loop. After this I use a simple incremented number to keep track of how many times it has ran. I use mtc1 to switch the register that is holding the number of inputs, to a float register, so that next I can switch this value to a float using cvt.s.w. I do div.s since it is single precision floating divide. I then print the result.



## Conclusion:

I learned a lot on floating numbers and that we have to use different operations for the floating numbers.