

Title Page

Lab #: Lab #3 Part 2

Course: CSE379

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Lab Section: R1

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Table of Contents

Section 1.....	3
Division of Work.....	3
Section 2.....	3
Program Overview.....	3
Program Summary.....	3
High Level Flowchart.....	4
Section 3.....	4
Subroutine Descriptions.....	4
Section 4.....	5
Subroutine Flowchartst.....	5

Section 1

Division of Work

Solomon: read_character, uart_init, read_string, int2string, lab3(L56 - L98 excluding new line output, and return output)

Jah: output_character, output_string, string2int, lab3(L98 - L124)

Section 2

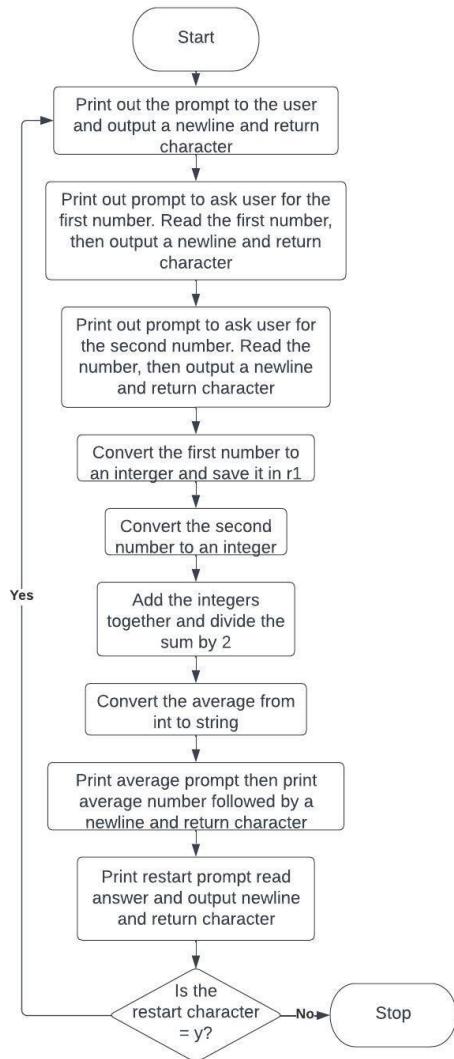
Program Overview

- Plug in Tiva board, open putty, and run instructions to set up the input and output terminal.
- Once you start the program it will prompt you to enter the first number
- After it will prompt you again to enter the second number
- After both are entered it will automatically return the average and prompt you to go again or exit the program
- If you go again repeat the above steps if not the program will say bye and then it will end

Program Summary

This lab applies the use of serial communication, loading and storing to and from memory, and type conversion, all to build program that takes user input and gives them the desired output. In this case it is two numbers that will be averaged.

High Level Flowchart



Section 3

Subroutine Descriptions

uart_init - initializes the uart for the user

output_character - character passed in r0 is output to the terminal

read_string - uses read_character and the base address passed into r0 to store the string in another specified memory address

output_string - uses output_character and the base address passed into r0 to print the entire string to the terminal

read_character - reads the character from the uart and stores into r0

Int2string - takes the integer in r0 and stores it into the address stored in r1

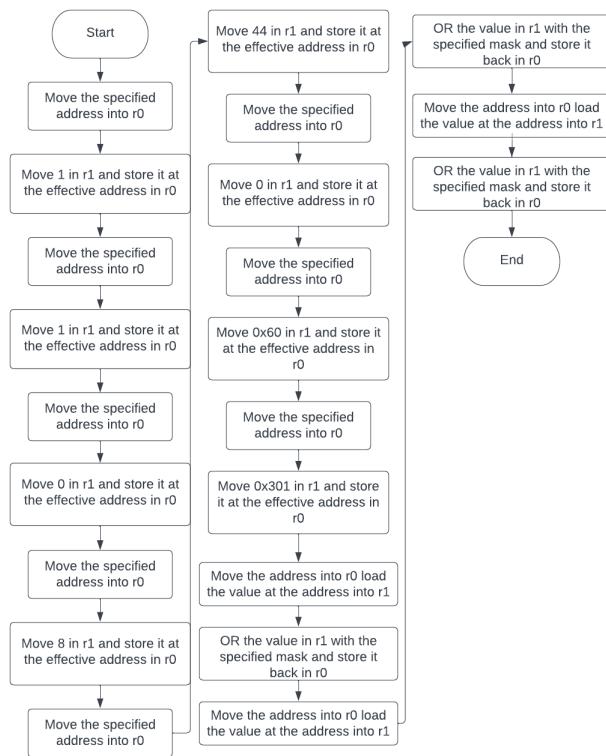
string2int - converts the string passed into r0 to an integer and returns it in r0

lab3 - takes the two integers stored in memory and returns the average of them and prompts the user to go again

Section 4

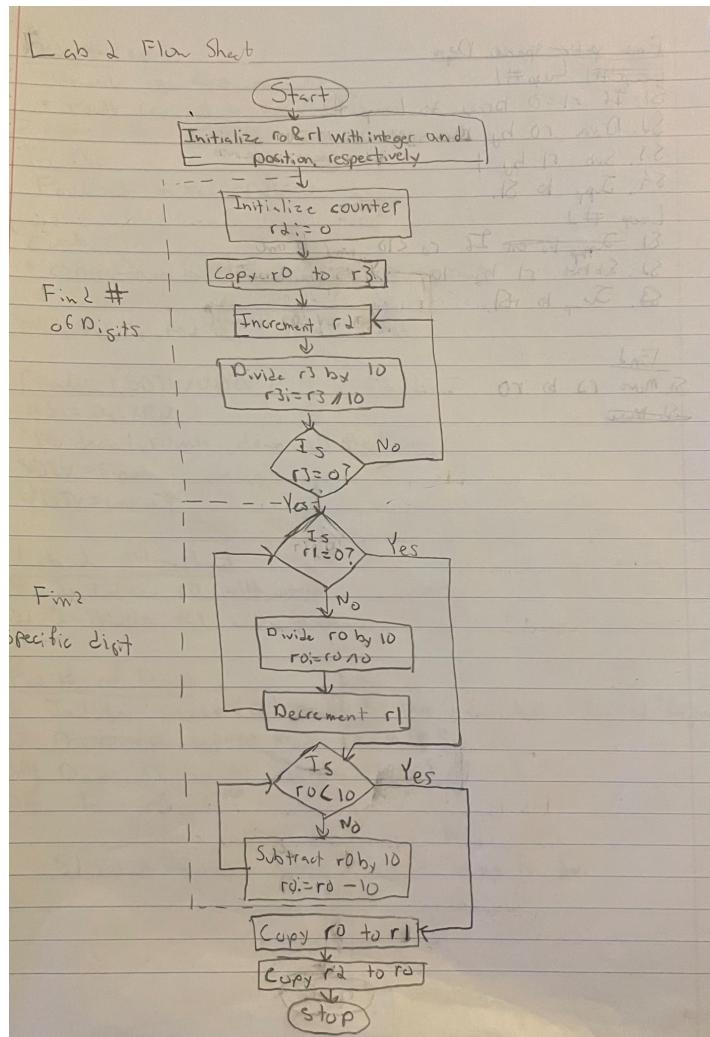
Subroutine Flowcharts

uart_init

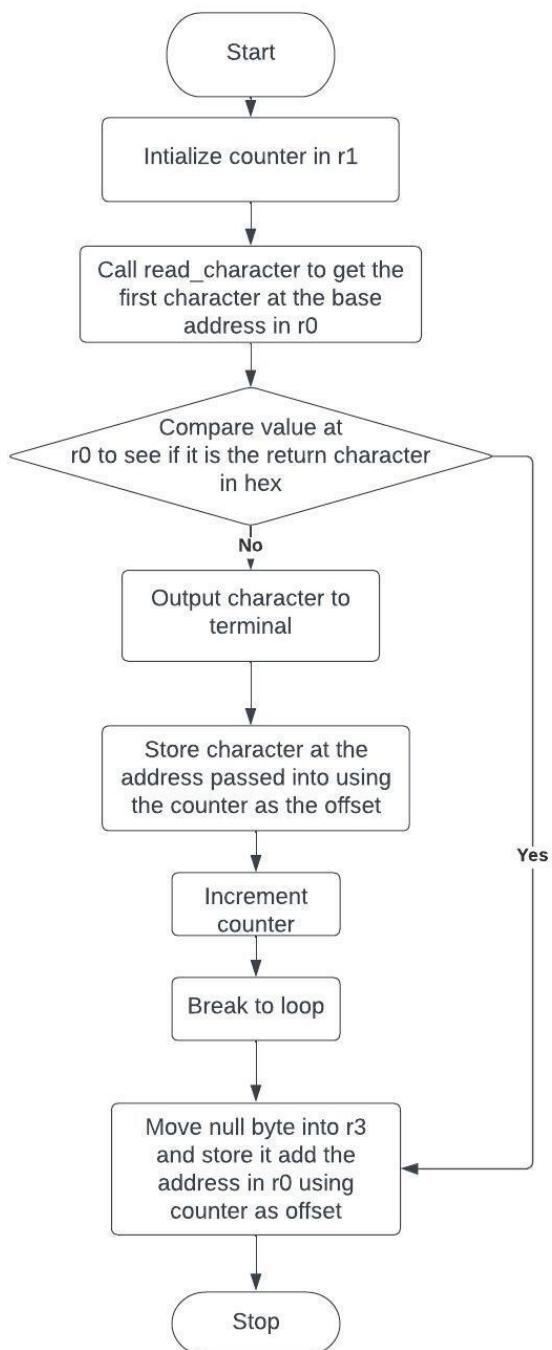


output_character

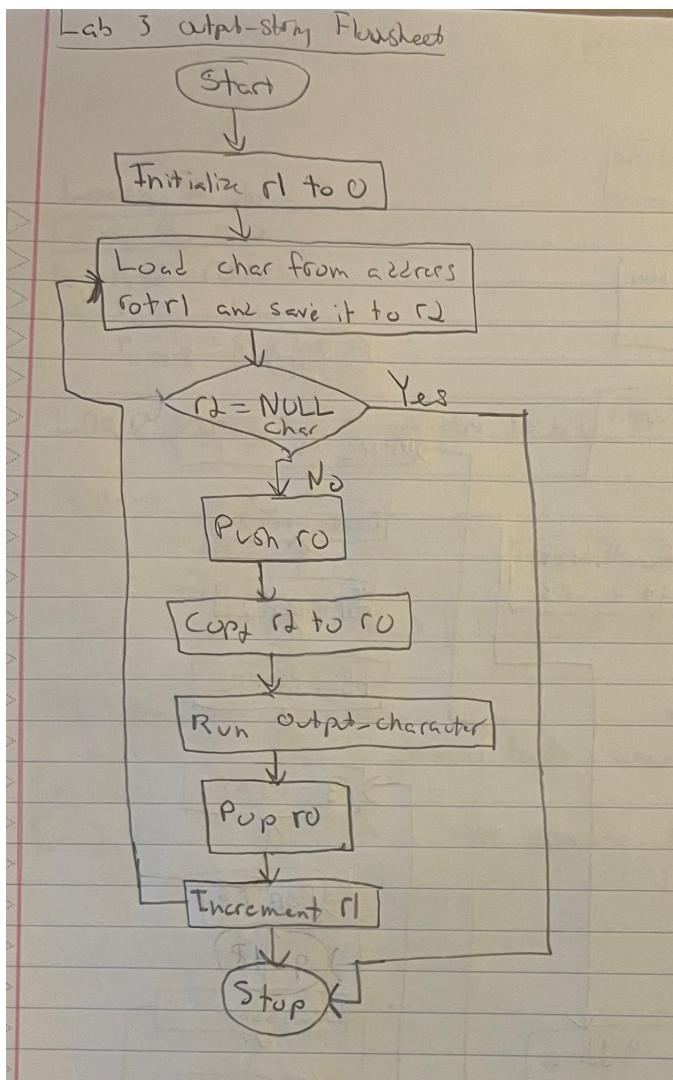
Labs 2 Flow Sheet



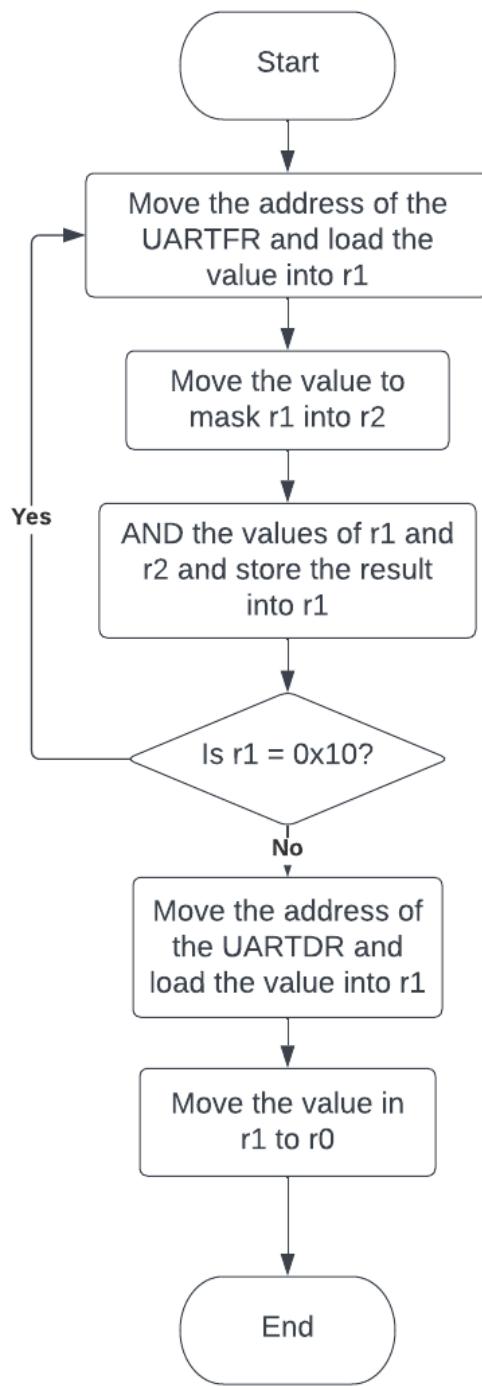
read_string



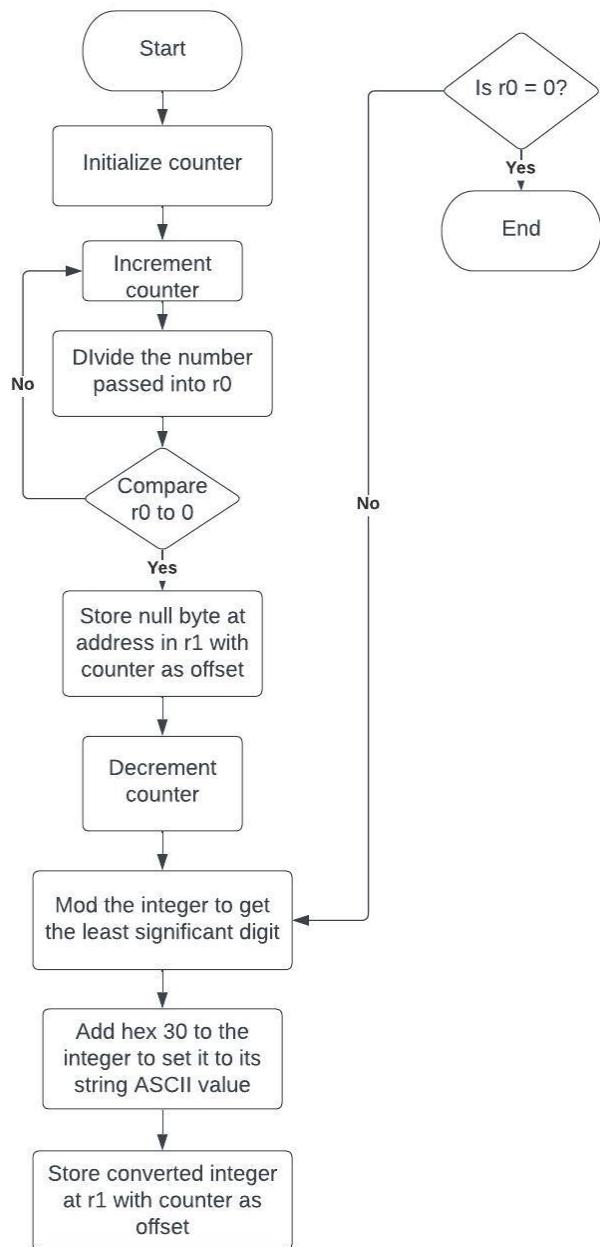
output_string



read_character



int2string



string2int

