Microprocessor and Computer Architecture Laboratory

UE19CS256

4th Semester, Academic Year 2020-21

Date: 06/03/2021

Name: SUHAN B REVANKAR	SRN: PES2UG19CS 412	Section G

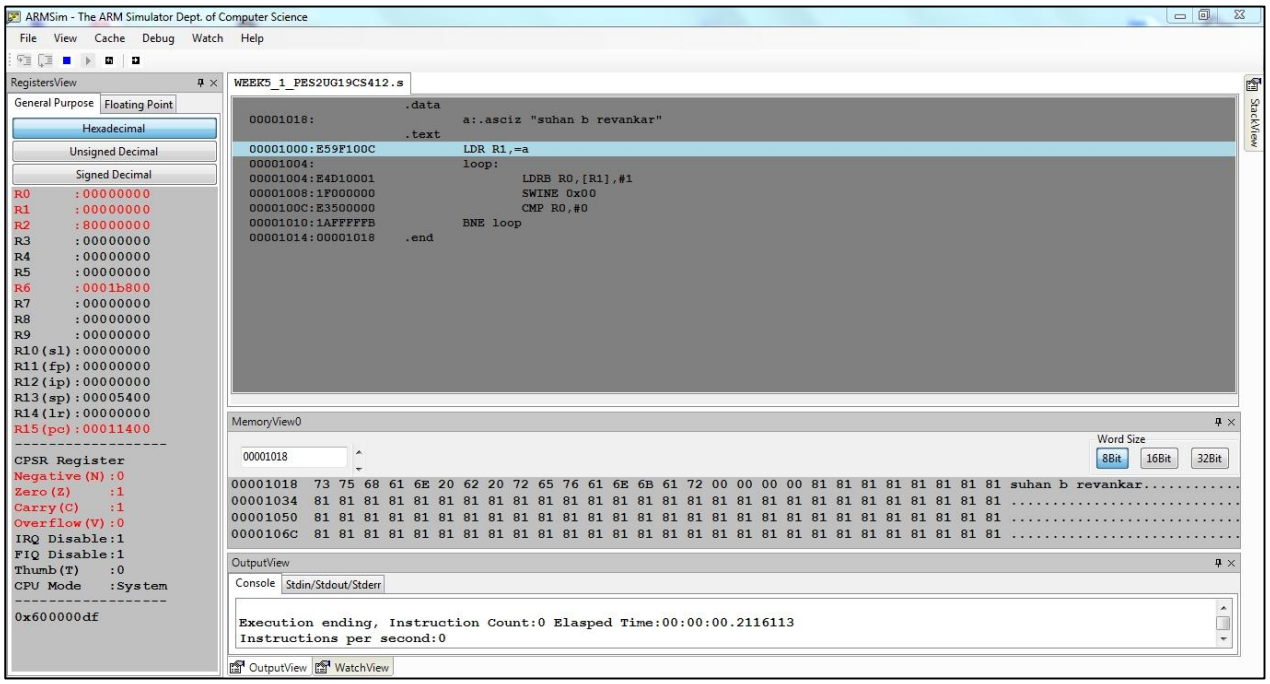
Week#___5_____ Program Number:___1

Write an ALP to display your name

I. ARM Assembly Code (1).

```
.data
        a:.asciz "suhan b revankar"
.text
        LDR R1,=a
        loop:
                LDRB R0,[R1],#1
                SWINE 0x00
                CMP R0,#0
        BNE loop
.end
```

II. Output Screen Shot (Output Window and Memory Window)



III. Output Table for the

program(1)

Before Execution

.data

str: .asciz “suhan

b revankar”

After Execution

On memory window :suhan b revankar

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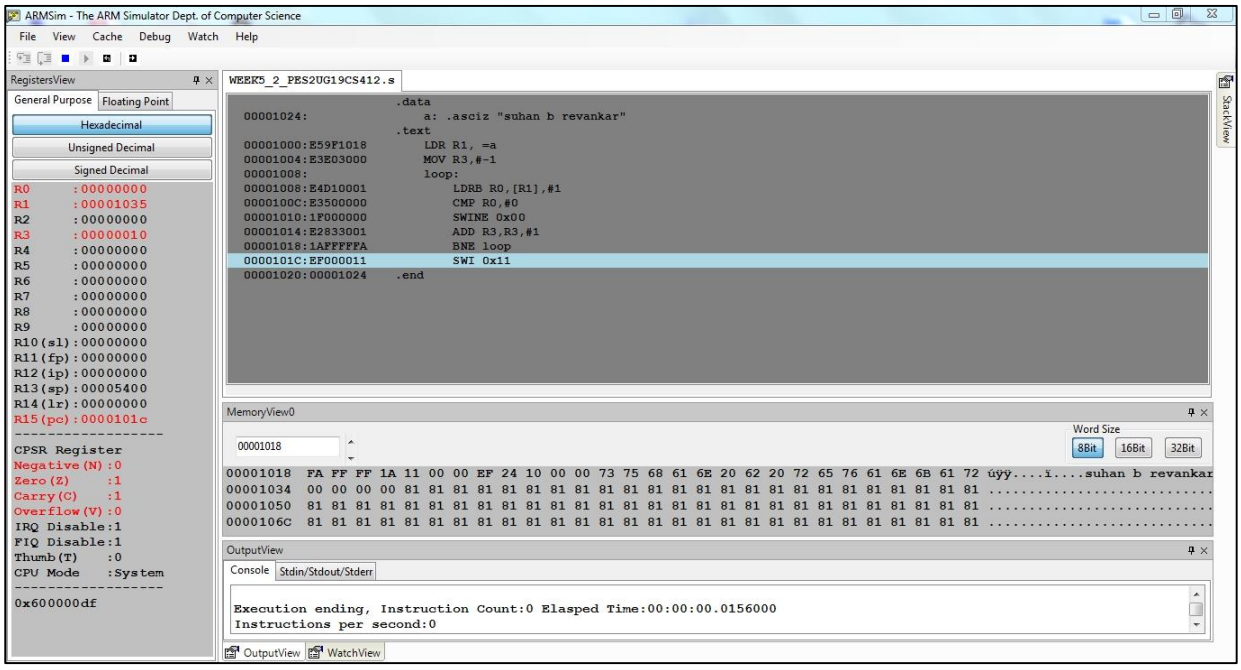
Week#___5_____ Program Number:___2

Write an ALP to find the length of a given string

I. ARM Assembly Code (1)

```
.data
    a: .asciz "suhan b revankar"
.text
    LDR R1, =a
    MOV R3,#-1
    loop:
        LDRB R0,[R1],#1
        CMP R0,#0
        SWINE 0x00
        ADD R3,R3,#1
        BNE loop
        SWI 0x11
.end
```

II. Output Screen Shot (One Example of your choice)



III. Output Table for the program(2)

Before Execution
.data
str: .asciz " suhan
b revankar” After
Execution
R1=00001035

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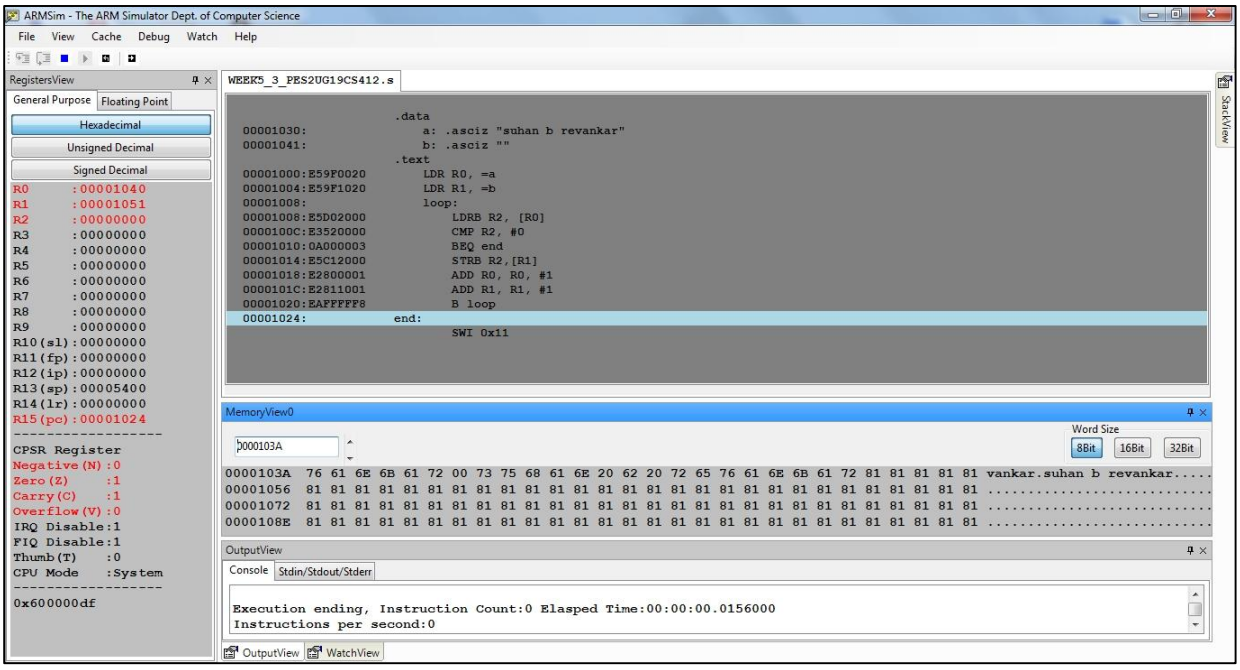
Week#___5_____ Program Number:___3

Write an ALP to copy string from one location to another

I. ARM Assembly Code (1).

```
.data
    a: .asciz "suhan b revankar"
    b: .asciz ""
.text
    LDR R0, =a
    LDR R1, =b
    loop:
        LDRB R2, [R0]
        CMP R2, #0
        BEQ end
        STRB R2,[R1]
        ADD R0, R0, #1
        ADD R1, R1, #1
        B loop
end:
        SWI 0x11
```

II. Output Screen Shot (One Example of your choice)



III. Output Table for the program(3)

Before Execution

.data

R0: .asciz " suhan

b revankar "

R1: .asciz ""

After

Execution R1:

" suhan b

revankar "

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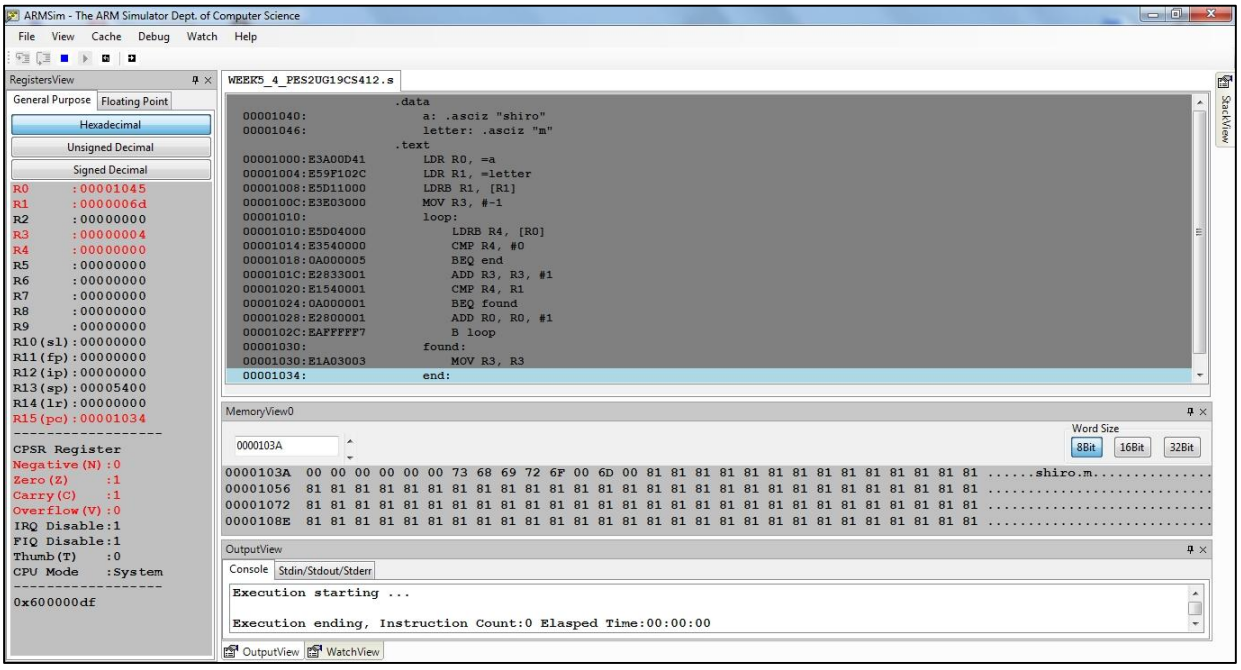
Week#___5_____ Program Number:___4_

Write an ALP to find whether a given character is present in a string. If present, find how many times the given character is present in a string.

I. ARM Assembly Code (1).

```
.data
    a: .asciz "shiro"
    letter: .asciz "m"
.text
    LDR R0, =a
    LDR R1, =letter
    LDRB R1, [R1]
    MOV R3, #-1
    loop:
        LDRB R4, [R0]
        CMP R4, #0
        BEQ end
        ADD R3, R3, #1
        CMP R4, R1
        BEQ found
        ADD R0, R0, #1
        B loop
    found:
        MOV R3, R3
    end:
        SWI 0x11
```

II. Output Screen Shot (One Example of your choice)



III. Output Table for the program(4)

Before Execution

.data

Str: .asciz

"shiro"

Char: .asciz

"m“

After Execution

R3=00000004

Disclaimer:

- The programs and output submitted is duly written, verified and executed by me.
- I have not copied from any of my peers nor from the external resource such as internet.
- If found plagiarized, I will abide with the disciplinary action of the University.

Signature :suhan
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Section: G
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