Microprocessor and Computer Architecture Laboratory

UE19CS256

4th Semester, Academic Year 2020-21

Date:6/03/2021

Name: R Sharmila	SRN: PES2UG19CS309	Section E

Week#____5_____ Program Number: ____1__

Write an ALP to display your name

I. ARM Assembly Code (1).

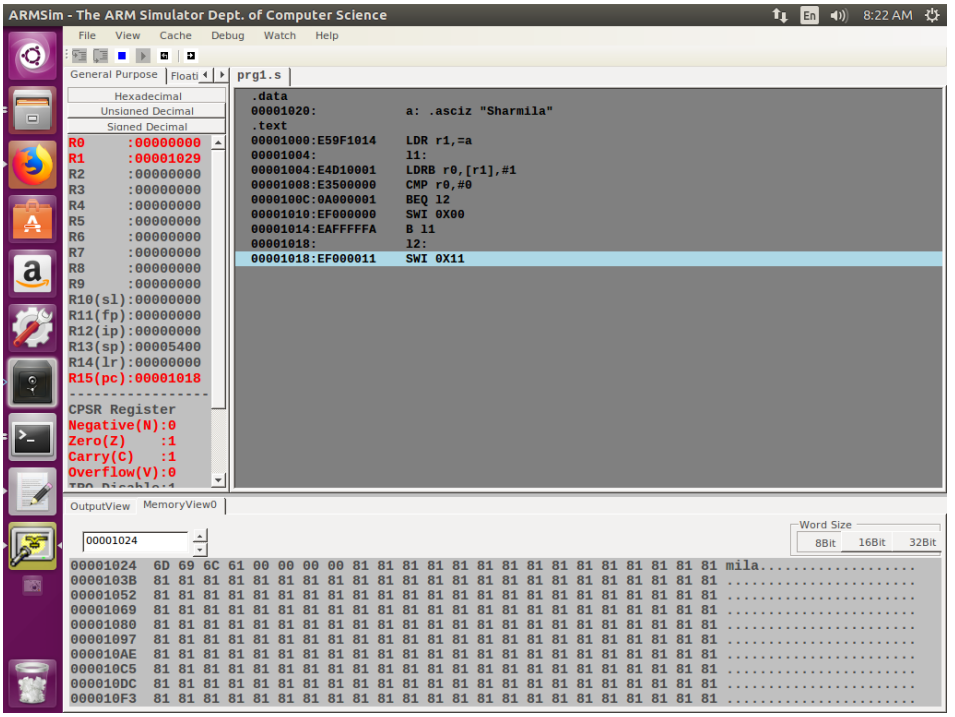
C:\Users\sharm\Desktop\4th sem\Microprocessor\Lab work\

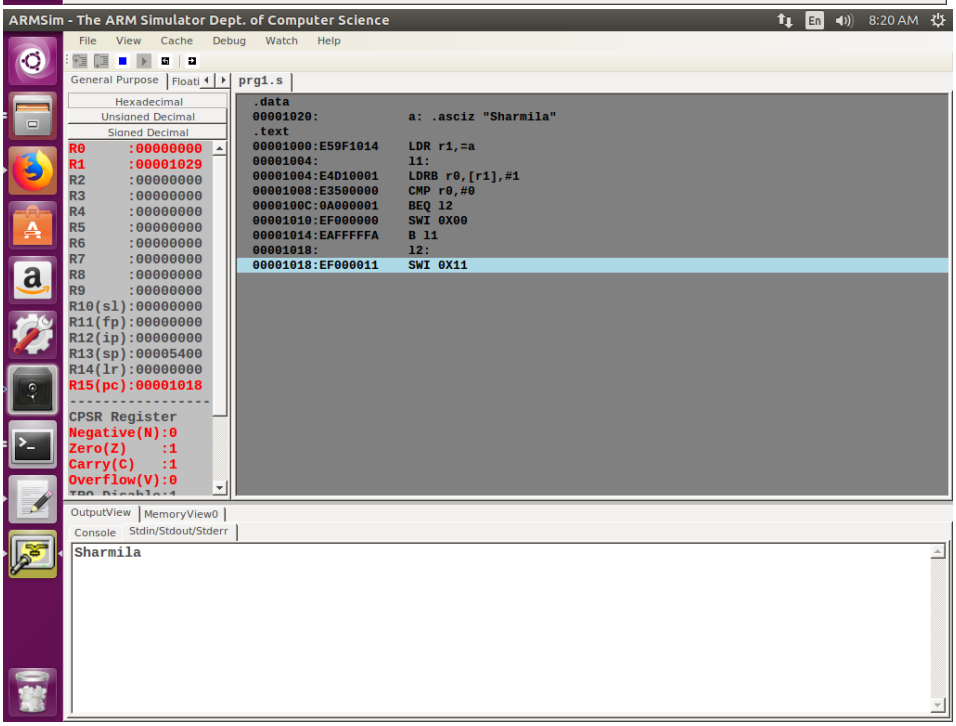
File Edit Search View Encoding Language Settings

Week5_Program1_PES2UG19CS309.s | Week5_Program2_

```
1   .data
2       a: .asciz "Sharmila"
3   .text
4       LDR r1,=a
5   l1:
6       LDRB r0,[r1],#1
7       CMP r0,#0
8       BEQ l2
9       SWI 0X00
10      B l1
11  l2:
12      SWI 0X11
13
14
```

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





III. Output Table for the program(1)

s	h	a	r	m	i	l	a
73	68	61	72	6D	69	6c	61

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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).

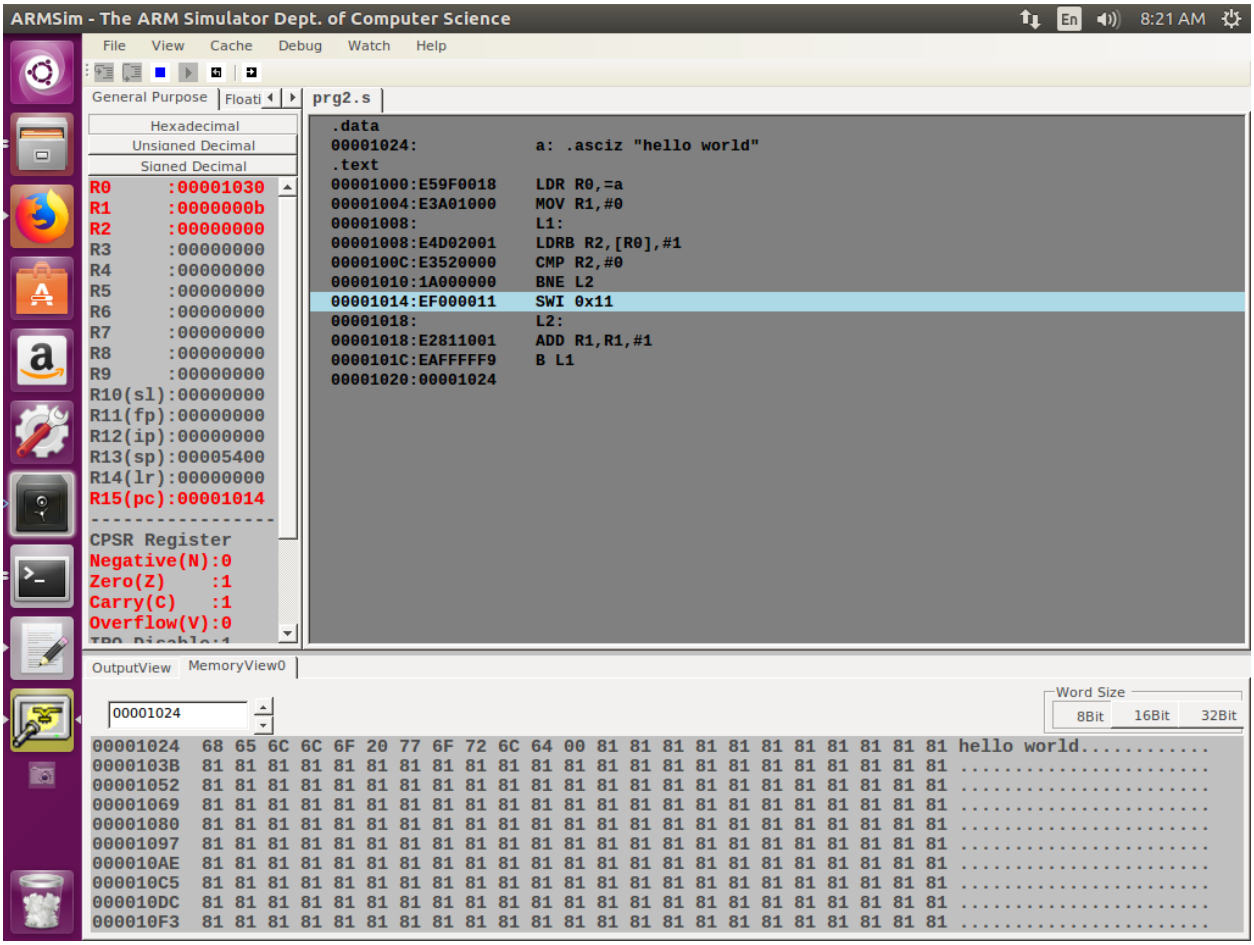
C:\Users\sharm\Desktop\4th sem\Microprocessor\Lab work\

File Edit Search View Encoding Language Settings

Week5_Program1_PES2UG19CS309.s | Week5_Program2_

```
1   .data
2       a: .asciz "hello world"
3   .text
4       LDR R0,=a
5       MOV R1,#0
6       L1:
7       LDRB R2,[R0],#1
8       CMP R2,#0
9       BNE L2
10      SWI 0x11
11      L2:
12      ADD R1,R1,#1
13      B L1
14
```

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



III. Output Table for the program(1)

h	e	l	l	o		w	o	r	l	d
68	65	6C	6C	6F	20	77	6F	72	6C	64

After execution:

R1=0000000B (11)

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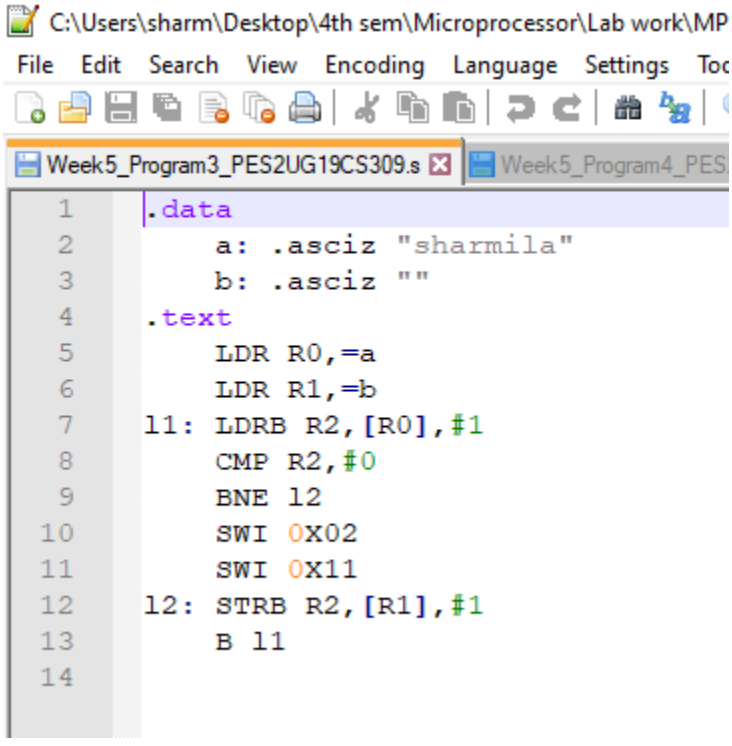
Week#____5_____ Program Number: ____3__

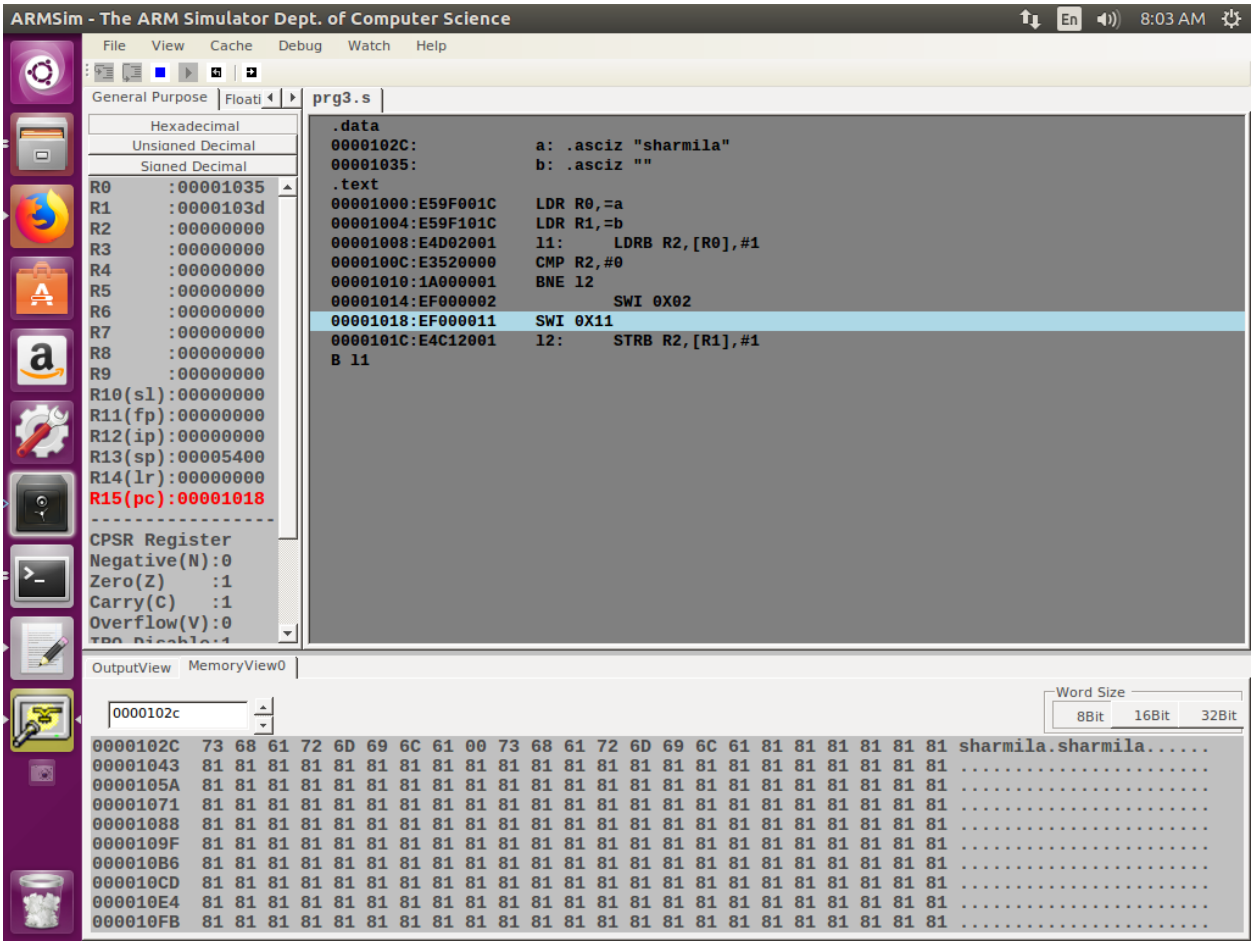
Write an ALP to copy string from one location to another

I. ARM Assembly Code (1).




```
1   .data
2       a: .asciz "sharmila"
3       b: .asciz ""
4   .text
5       LDR R0,=a
6       LDR R1,=b
7   l1: LDRB R2,[R0],#1
8       CMP R2,#0
9       BNE l2
10      SWI 0X02
11      SWI 0X11
12  l2: STRB R2,[R1],#1
13      B l1
14
```

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



III. Output Table for the program(1)

Before Execution

.data

a: .asciz "sharmila"

b: .asciz ""

After Execution

b: "sharmila"

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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).

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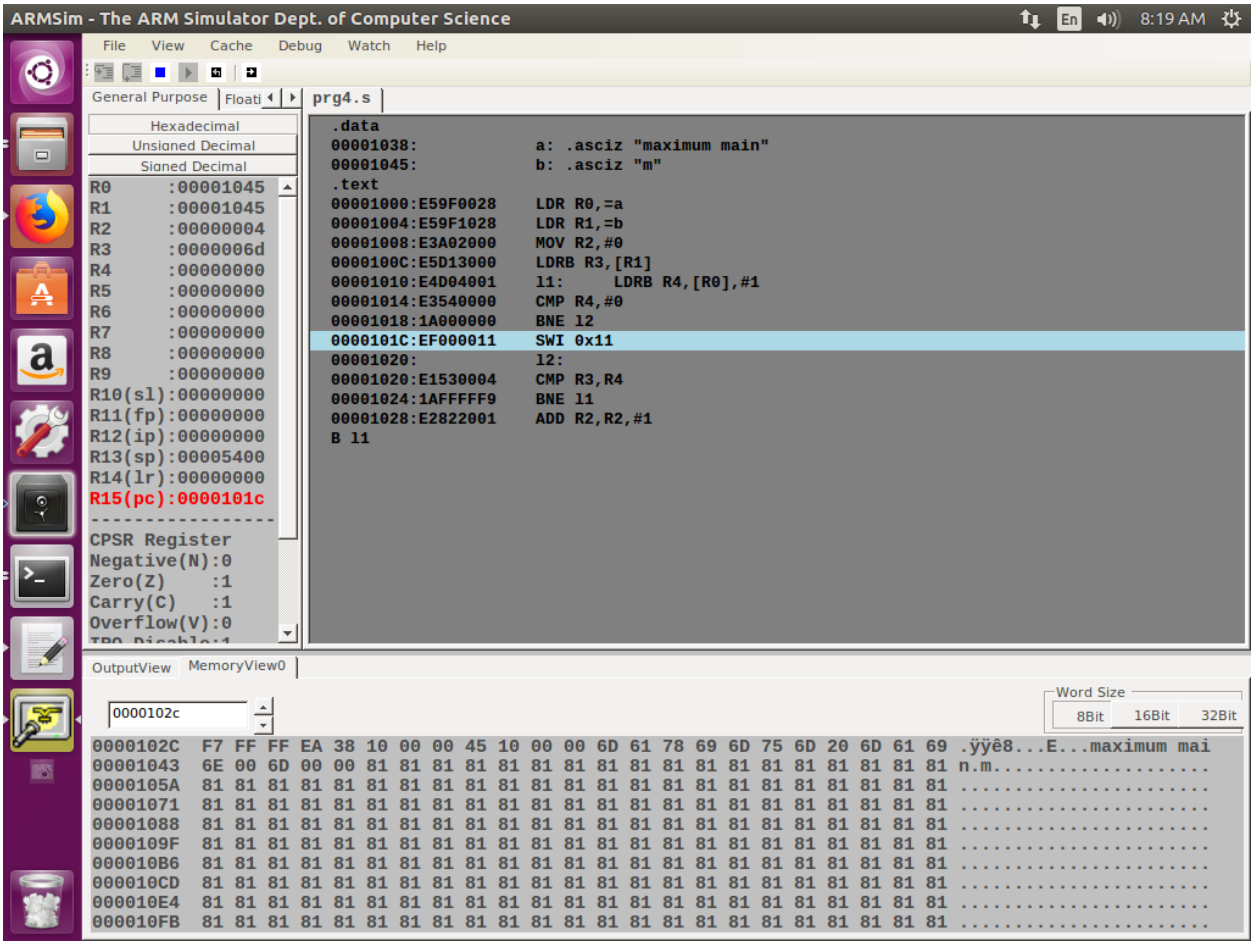
File Edit Search View Encoding Language Settings To

Week5_Program4_PES2UG19CS309.s

```
1   .data
2       a: .asciz "maximum main"
3       b: .asciz "m"
4   .text
5       LDR R0,=a
6       LDR R1,=b
7       MOV R2,#0
8       LDRB R3,[R1]
9   l1: LDRB R4,[R0],#1
10      CMP R4,#0
11      BNE l2
12      SWI 0x11
13  l2:
14      CMP R3,R4
15      BNE l1
16      ADD R2,R2,#1
17      B l1
18
```

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



III. Output Table for the program(1)

Before Execution

.data

Str: .asciz "maximum main"

Char: .asciz "m“

After Execution

R2=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: R Sharmila
Name: R Sharmila
SRN: PES2UG19CS309
Section: E
Date: 6/03/2021