Microprocessor and Computer Architecture Laboratory

UE19CS256

4th Semester, Academic Year 2020-21

Date:

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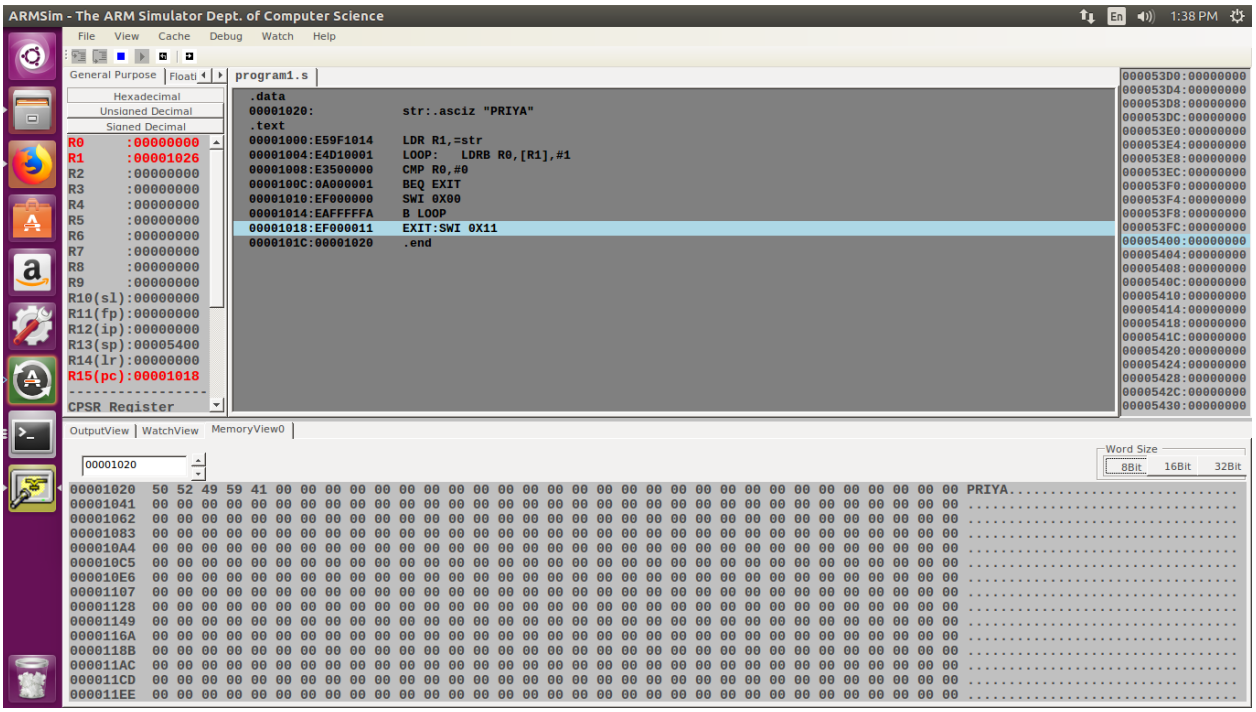
Week#____5_____ Program Number: ____1__

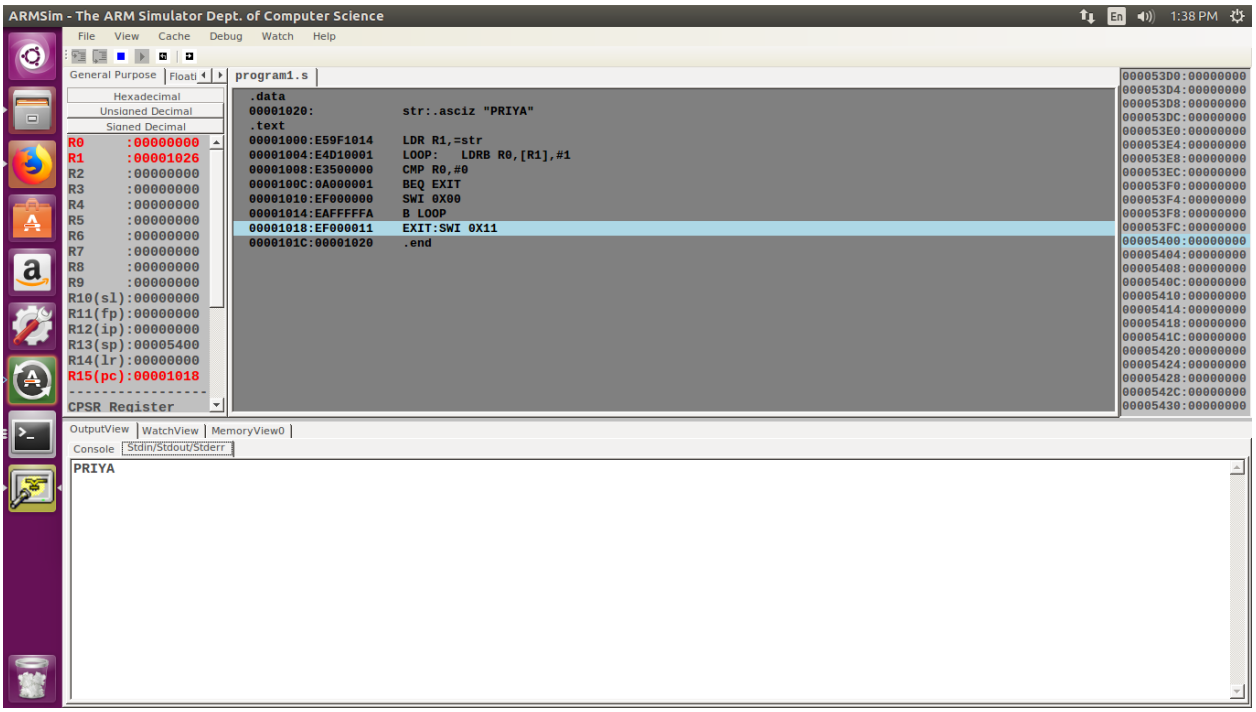
Write an ALP to display your name

I.ARM Assembly Code (1).

```
.data
str:.asciz "PRIYA"
.text
LDR R1,=str
LOOP:   LDRB R0,[R1],#1
        CMP R0,#0
        BEQ EXIT
        SWI 0X00
        B LOOP
EXIT:SWI 0X11
.end
```

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





III. Output Table for the program

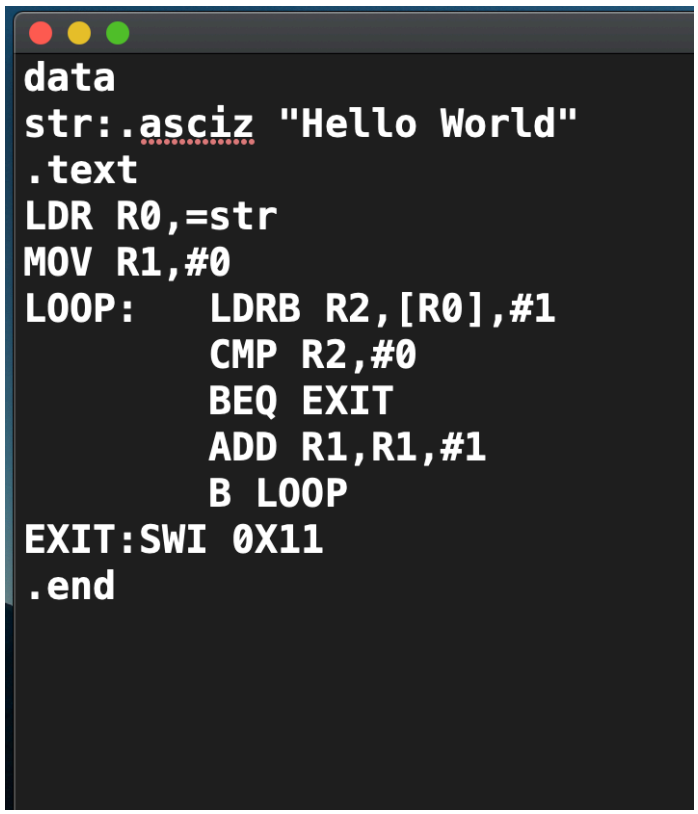
Stdout : PRIYA

Memory : 50 52 49 59 41

Week#____5_____ Program Number: ____2__

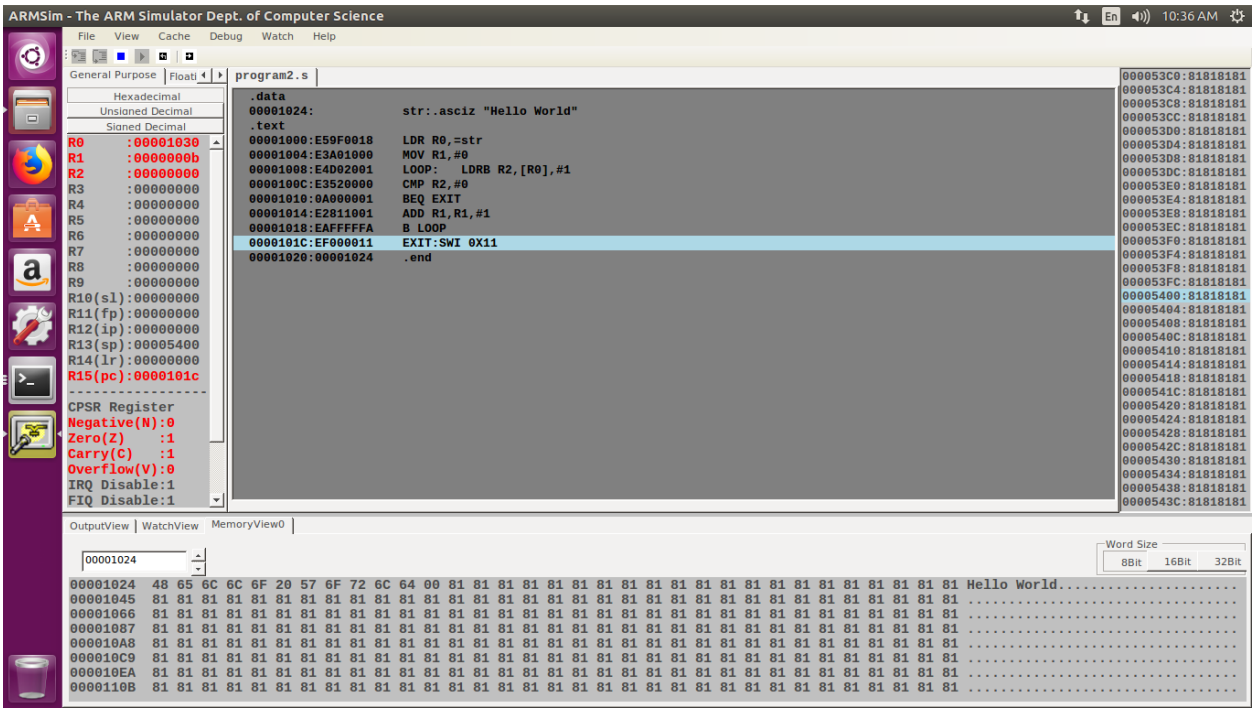
Write an ALP to find the length of a given string

I.ARM Assembly Code (1).



```
data
str:.asciz "Hello World"
.text
LDR R0,=str
MOV R1,#0
LOOP:   LDRB R2,[R0],#1
        CMP R2,#0
        BEQ EXIT
        ADD R1,R1,#1
        B LOOP
EXIT:SWI 0X11
.end
```

II.Output Screen Shot



III.Output Table for the program

Before Execution

.data

str: .asciz “Hello World”

After Execution

R1=0000000b

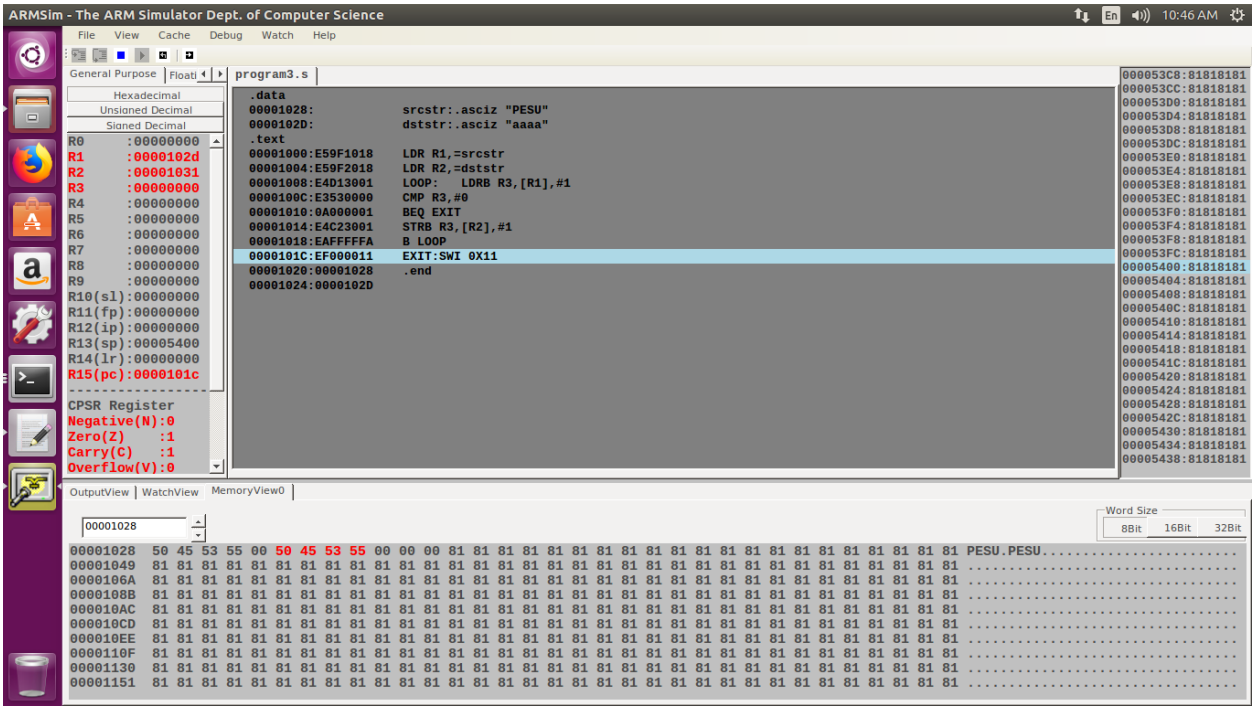
Week#____5_____ Program Number: ____3__

Write an ALP to copy string from one location to another

I. ARM Assembly Code (1).

```
data
srcstr:.asciz "PESU"
dststr:.asciz "aaaa"
.text
LDR R1,=srcstr
LDR R2,=dststr
LOOP:   LDRB R3,[R1],#1
        CMP R3,#0
        BEQ EXIT
        STRB R3,[R2],#1
B LOOP
EXIT:SWI 0X11
.end
```

II. Output Screen Shot



III. Output Table for the program

Before Execution

```
.data
srcstr:     .asciz  "PESU"
dststr:     .asciz "aaaa"
```

After Execution

```
dststr:      "PESU "
```

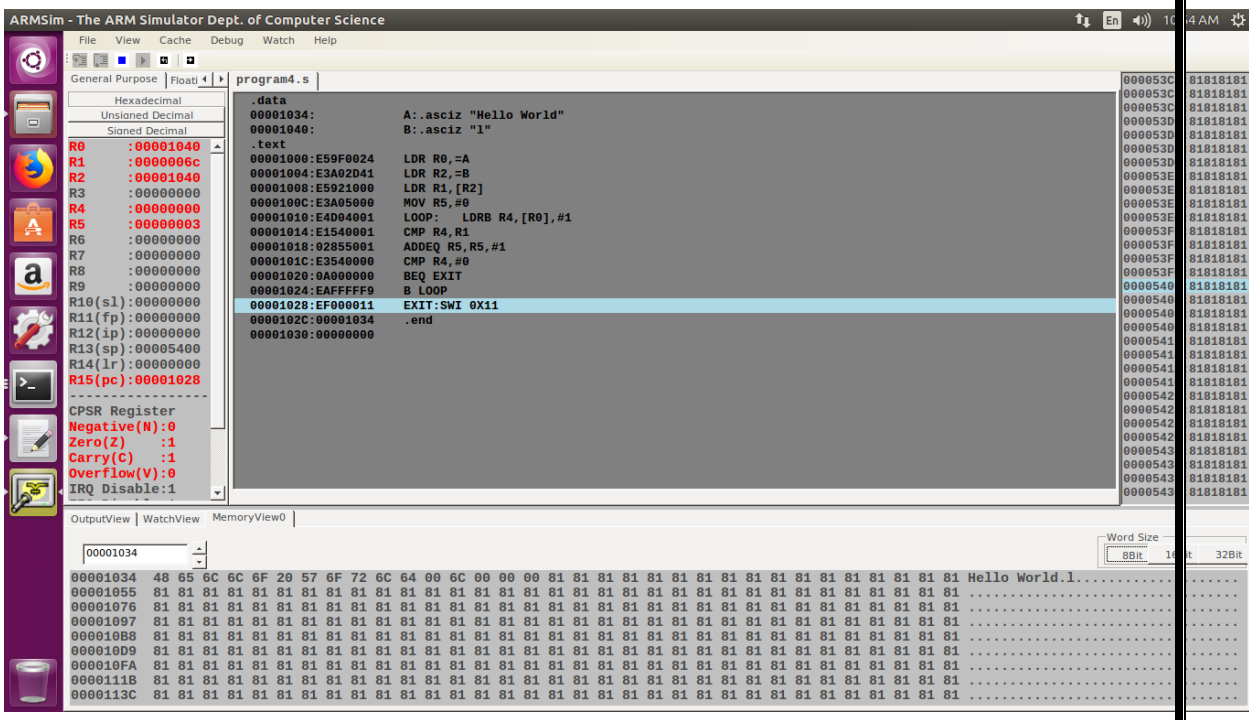
Week#____5_____ Program Number: ____4_

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 "Hello World"
B:.asciz "l"
.text
LDR R0,=A
LDR R2,=B
LDR R1,[R2]
MOV R5,#0
LOOP:   LDRB R4,[R0],#1
        CMP R4,R1
        ADDEQ R5,R5,#1
        CMP R4,#0
        BEQ EXIT
B LOOP
EXIT:SWI 0X11
.end
```

II. Output Screen Shot



III. Output Table for the program

Before Execution

.data

Str: .asciz "hello world"

Char: .asciz "l“

After Execution

R5=00000003

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.

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