**Microprocessor and Computer Architecture Laboratory**

**UE19CS256**

**4th Semester, Academic Year 2020-21**

Date:

| Name: OP JOY JEFFERSON | SRN: PES2UG19CS270 | Section:E |
|---|---|---|

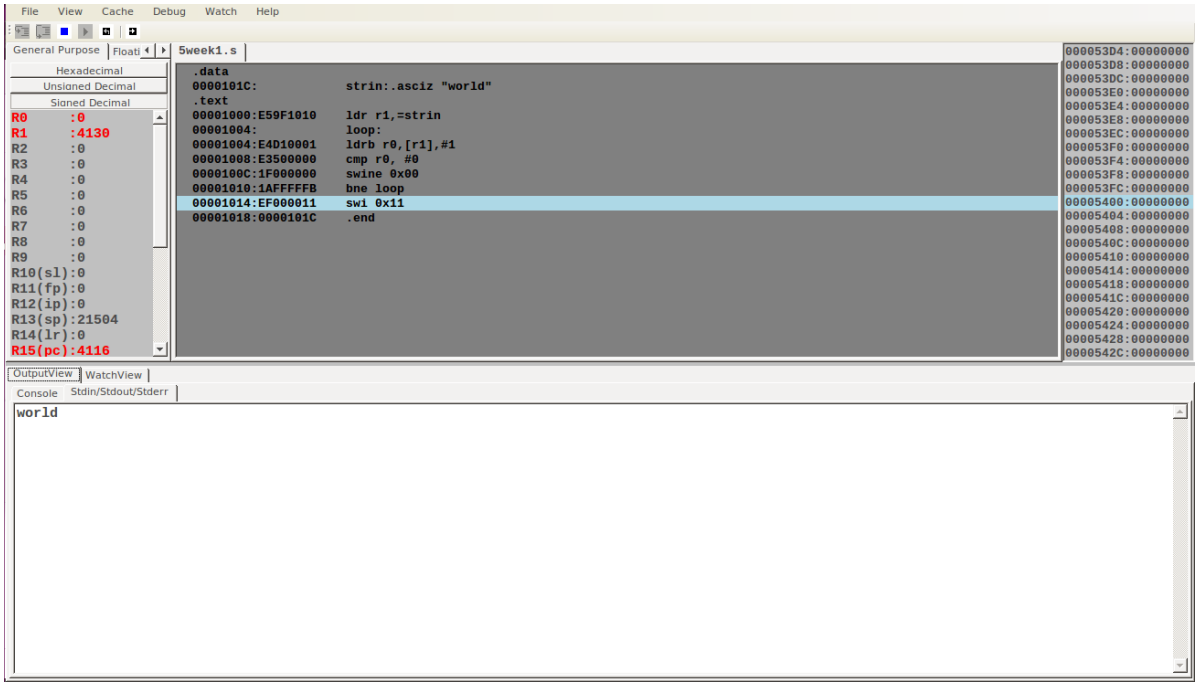
Week#____5_____ Program Number: ____1__

**Write an ALP to display your name**

I. ARM Assembly Code (1).

```
.data
strin:.asciz "world"
.text
        ldr r1,=strin
        loop:
                ldrb r0,[r1],#1
                cmp r0, #0
                swine 0x00
                bne loop
                swi 0x11
.end
```

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




III. Output Table for the program(1)

world

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Week#____5_____ Program Number: ____2__

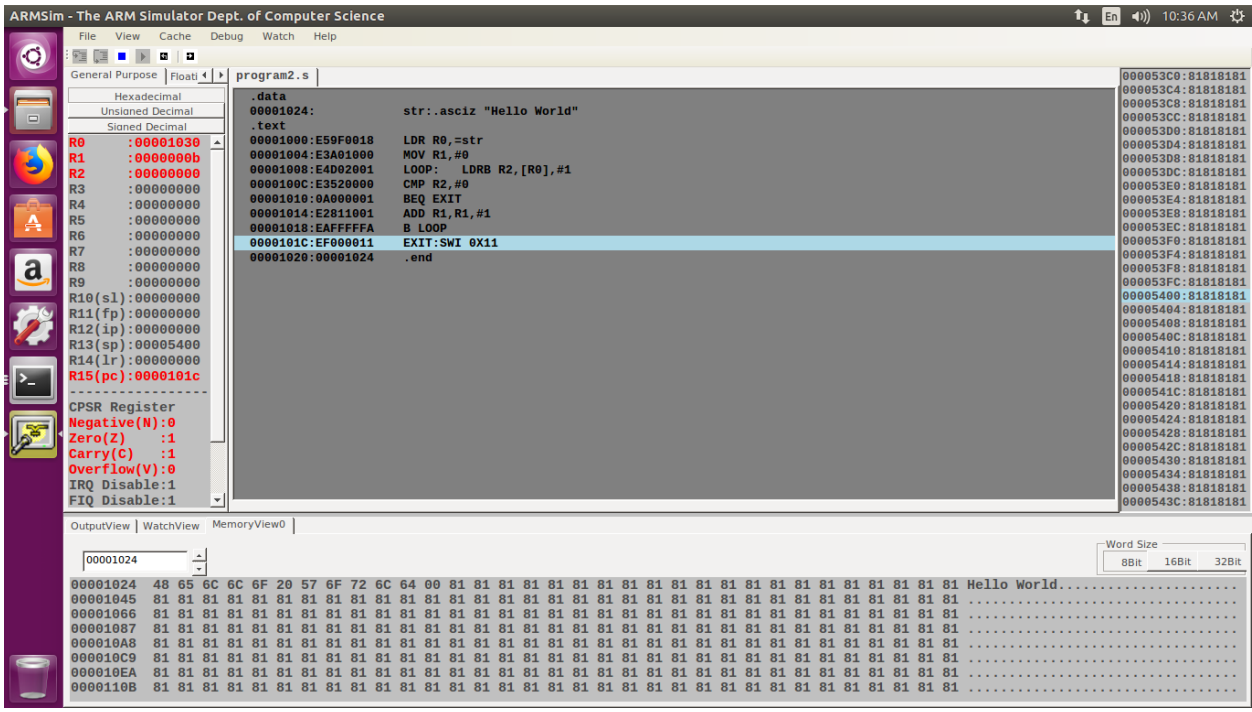
**Write an ALP to find the length of a given string**

I. ARM Assembly Code (1).

```
data
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 (One Example of your choice)




## III. Output Table for the program(1)

R5:0x03

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Week#____5_____ Program Number: ____3__

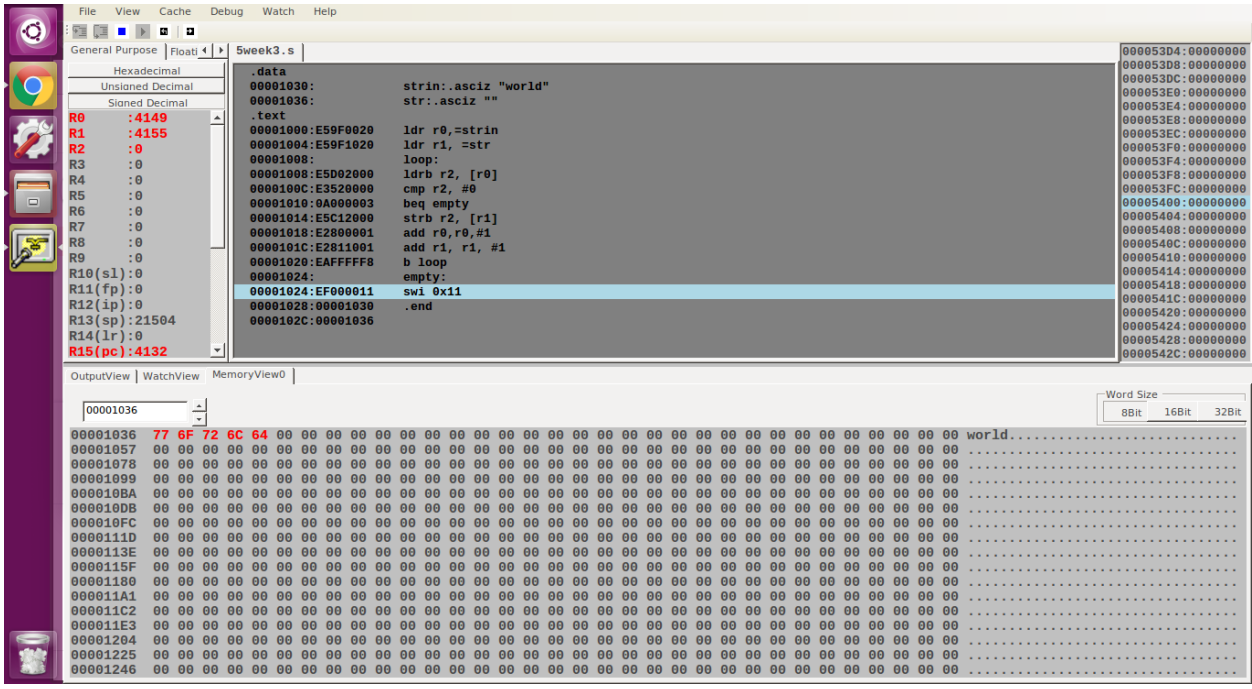
**Write an ALP to copy string from one location to another**

I. ARM Assembly Code (1).

```
.data
strin:.asciz "world"
str:.asciz ""
.text
ldr r0,=strin
ldr r1, =str
loop:
        ldrb r2, [r0]
        cmp r2, #0
        beq empty
```

```
        strb r2, [r1]
        add r0,r0,#1
        add r1, r1, #1
        b loop
empty:
        swi 0x11
.end
```

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




III. Output Table for the program(1)

world

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Week#____5_____ Program Number: ____4_

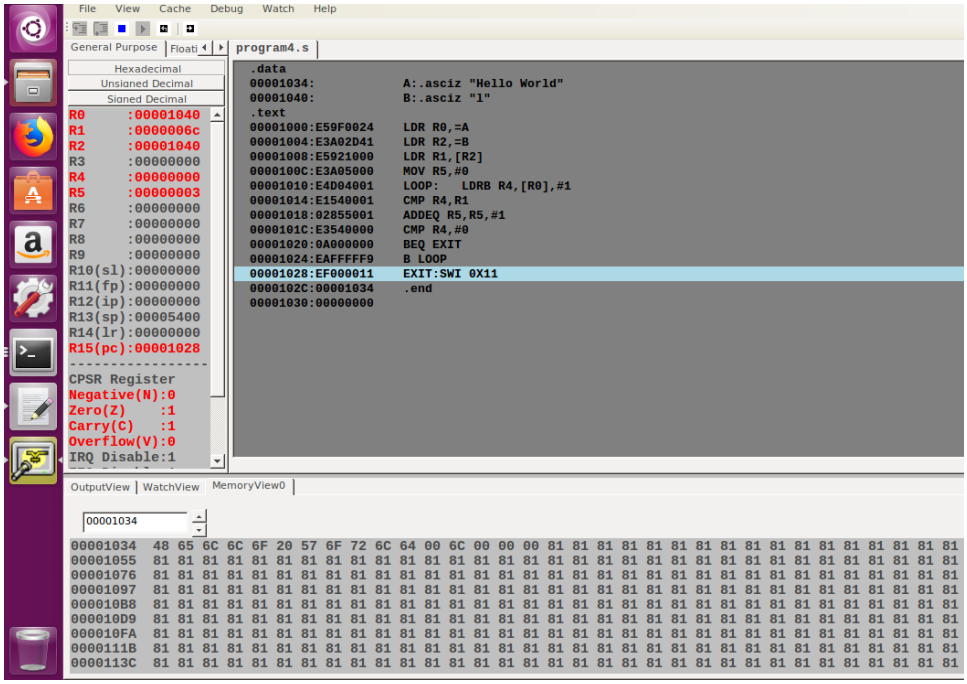
**Write an ALP to find whether a given character is present in a string. If present, find how many times the given character is present in a string.**

I. ARM Assembly Code (1).

```
.data
A:.asciz "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 (One Example of your choice)




III. Output Table for the program(1)

0X03 (Count of l).

**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:Joy
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