



**PES University, Bangalore**  
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**B.Tech., 4<sup>th</sup> Semester, March 2022**  
**UE20CS252: Microprocessor and Computer Architecture**  
**Assignment – Week 7**  
**Last Date of Submission : 20<sup>th</sup> April 2022.**

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Section : 'H'

Sl #	Question
1	<p>Display hexadecimal digits [0–9, A–F] on the 8 segment display.</p> <p><b>Code :</b></p> <pre>.text .global _start  begin:     mov r0, #0     mov r2, #0  again:      swi 0x202 ; check whether black button pressed or not     cmp r0, #1     beq loop1     cmp r0, #2     beq loop2     b again  loop1:      mov r5, #16     ldr r1, =zero  back1:      ldrb r0, [r1]     swi 0x200 ; Set 8 segment display to light up bl delay     add r1, r1, #1     sub r5, r5, #1     cmp r5, #0     bne back1     b again  loop2:      mov r5, #16     ldr r1, =F  back2:      ldrb r0, [r1]     swi 0x200 ; Set 8 segment display to light up bl delay     sub r1, r1, #1     sub r5, r5, #1</pre>

```

cmp r5, #0
bne back2
b again

```

delay:

```

mov r4, #64000
loop3: sub r4, r4, #1
cmp r4, #0
bge loop3
mov pc, lr

```

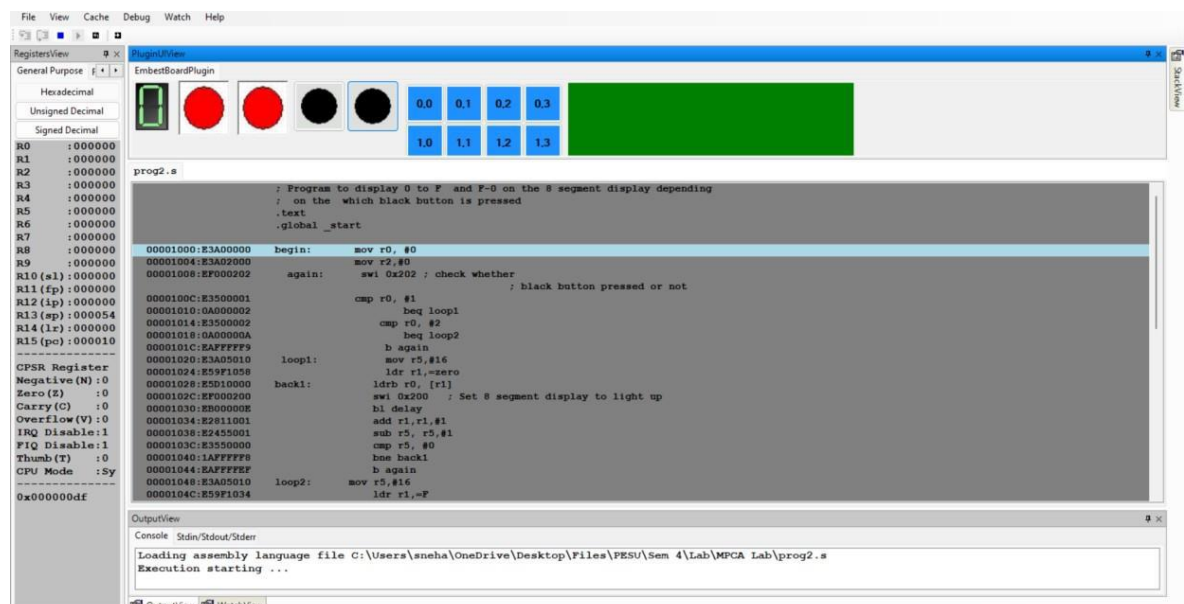
.data

```

zero: .byte 0b11101101
one: .byte 0b01100000
two: .byte 0b01101110
three: .byte 0b11111010
four: .byte 0b00110011 --- 01110011
five: .byte 0b10101011
six: .byte 0b10101111
seven: .byte 0b01110000
eight: .byte 0b11101111
nine: .byte 0b11100011
A: .byte 0b11100111
B: .byte 0b00101111
C: .byte 0b10001101
D: .byte 0b01101110
E: .byte 0b10001111
F: .byte 0b10000111

```

Screenshot :



2 Move a string from LEFT to RIGHT on the LCD display panel.

## Code :

.text

```
mov r0 , #30
mov r1 , #7
mov r7 , #0
ldr r8 , =num
ldr r8 , [r8]
ldr r2 , =str
```

loop:

```
    swi 0x204
    bl sum
    cmp r0 , #0
    subne r0 , r0 , #1
    swieq 0x11
    b loop
```

sum:

```
    cmp r7 , r8
    addne r7 , r7 , #1
    bne sum
    swi 0x206
    mov r7 , #0
    mov pc , lr
```

.data

```
str: .asciz "HELLO WORLD"
num: .word 15000
```

## Screenshot :

