

# MPCA Lab - Week 7

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## Student programs :

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**Program 1: Display all HEX codes from 0-9 | A-F**

**Code:**

```
.data
.equ SEG_A,0x80
.equ SEG_B,0x40
.equ SEG_C,0x20
.equ SEG_D,0x08
.equ SEG_E,0x04
.equ SEG_F,0x02
.equ SEG_G,0x01
.equ SEG_P,0x10
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

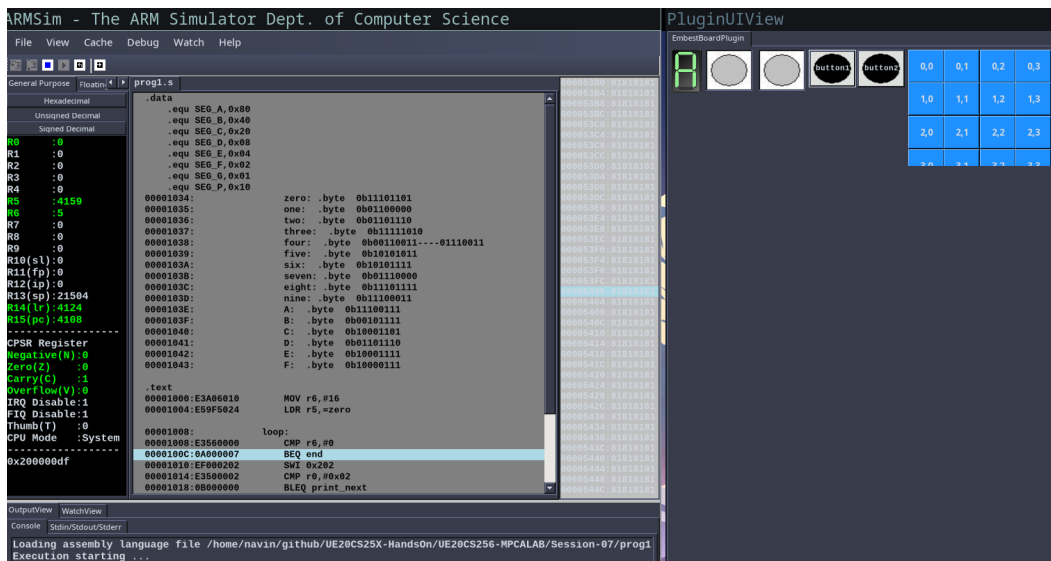
.text
MOV r6,#16
LDR r5,=zero

loop:
    CMP r6,#0
    BEQ end
    SWI 0x202
    CMP r0,#0x02
    BLEQ print_next
    B loop

print_next:
    LDRB r0,[r5],#1
    SWI 0x200
    SUB r6,r6,#1
    MOV pc,lr
end: .end

```

**Screenshots:**



### Program 2: Display a text in LCD moving from right to left

**Code :**

```
.data
    txt: .asciz "hello world"
    delay: .word 15000

.text
    mov r0,#0
    mov r1,#7
    ldr r2,=txt
    ldr r3,=delay
    ldr r3,[r3]
    mov r4,#0

loop:
    swi 0x206
    swi 0x204
    bl delay_loop
    cmp r0,#30
```

```

addne r0,r0,#1
moveq r0,#0
b loop
delay_loop:
cmp r4,r3
addne r4,r4,#1
bne delay_loop
mov r4,#0
mov pc,lr

```

## Screenshots:

