



Department of Computer Science & Engineering
Microprocessor & Computer Architecture—UE20CS252

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SECTION : I

SRN : PESIUG20CS516

MPCA—Laboratory/Assignment/Hands—on/Project

Sl. No.	Programs
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Week
No. 7

1. Demonstration of programs using plug-ins using ARMSIM.

a. Set the LED to be light up.

CODE:

=> .TEXT

MOV R0,#0

LOOP: SWI 0X201

ADD R0,R0,#1

MOV R4,#128000

DELAY: SUB R4,R4,#1

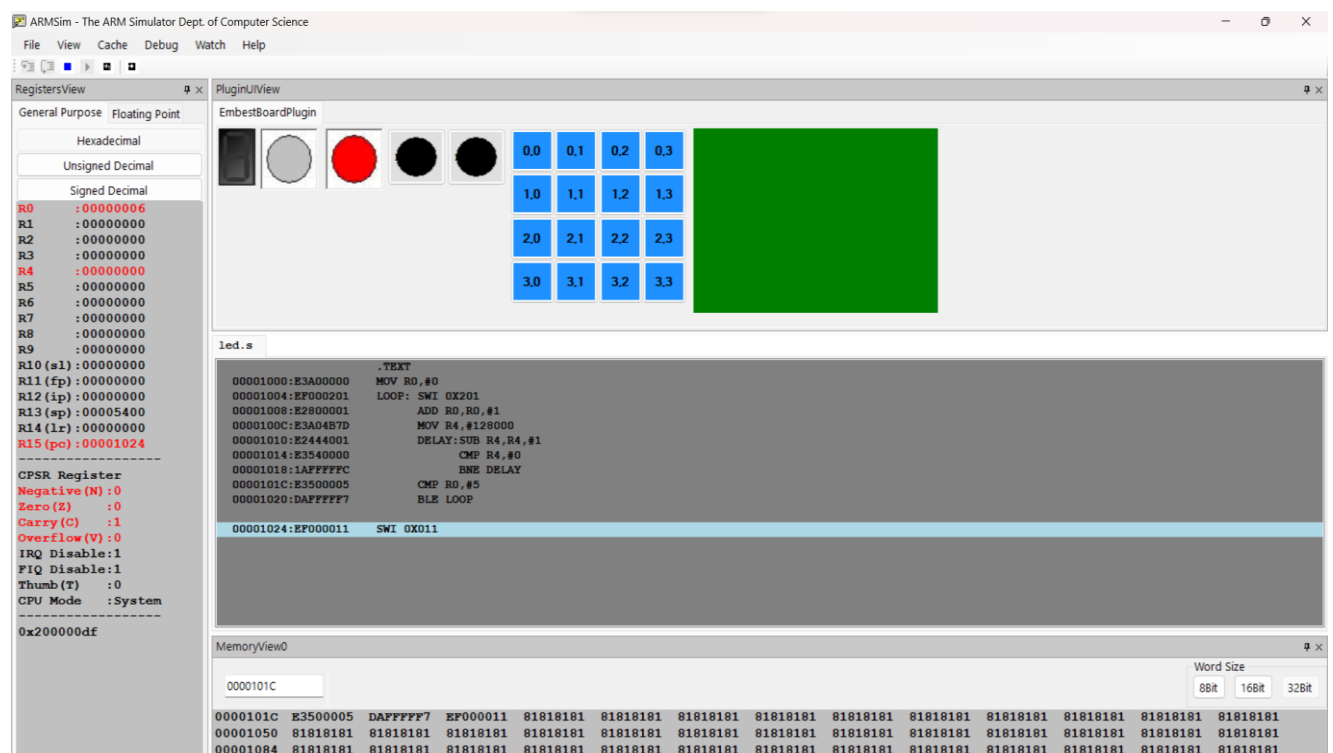
CMP R4,#0

BNE DELAY

CMP R0,#5

BLE LOOP

SWI 0X011



b. Display hexadecimal digits [0–9, A–F] on the 8 segment display.

CODE:

=>.DATA

ZERO: .BYTE 0B11101101
ONE: .BYTE 0B01100000
TWO: .BYTE 0B11001110
THREE: .BYTE 0B11101010
FOUR: .BYTE 0B01100011
FIVE: .BYTE 0B10101011
SIX: .BYTE 0B10101111
SEVEN: .BYTE 0B11100000
EIGHT: .BYTE 0B11101111
NINE: .BYTE 0B11101011

A: .byte 0b11100111
B: .byte 0b00101111
C: .byte 0b10001101
D: .byte 0b01101110
E: .byte 0b10001111
F: .byte 0b10000111

.TEXT

;PROGRAM TO DISPLAY 0 TO F AND F TO 0

begin:mov R0, #0
 mov R2, #0

again:swi 0X202 ; CHECK WHETHER BUTTON WAS CLICKED OR NOT
 cmp r0, #1
 beq loop1
 cmp R0, #2
 beq loop2
 b again

loop1:mov r5, #16
 ldr r1, =ZERO

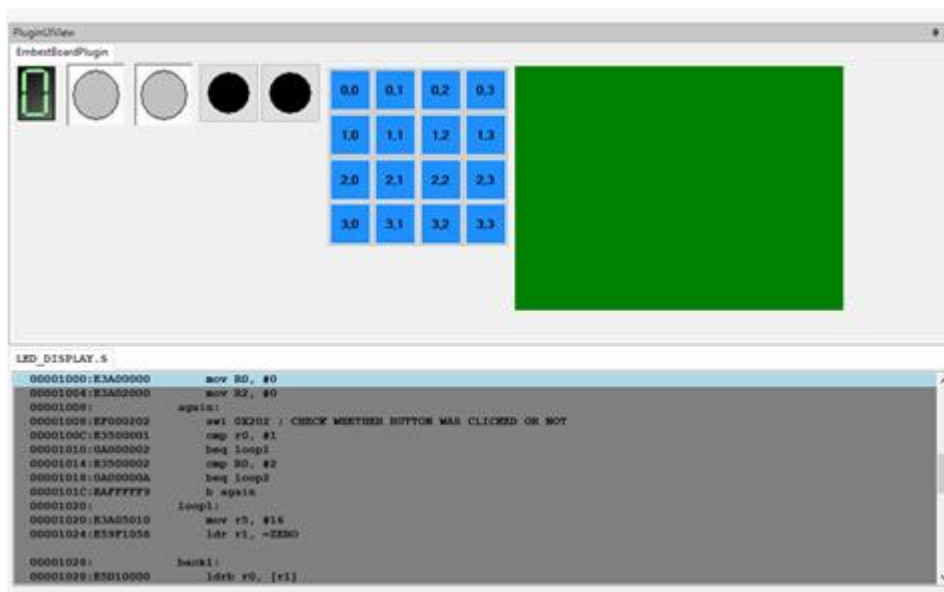
back1:ldrb r0, [r1]
 swi 0x200 ; Set 8 segment display to light up bl delay
 add r1,r1,#1
 sub r5, r5,#1
 cmp r5, #0

```
bne back1
b again
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loop2:mov r5,#16
ldr r1,=F
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back2:ldrb r0, [r1]
swi 0x200 ; Set 8 segment ; display to light up bl delay
sub r1,r1,#1
sub r5, r5,#1
cmp r5, #0
bne back2
b again
```

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delay:mov r4, #64000
loop3:sub r4, r4, #1
cmp r4, #0
bge loop3
mov pc, lr
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c.Move a string from RIGHT to LEFT on the LCD display panel.

CODE:

=>.data

str:.asciz "HELLO WORLD"

num:.word 15000

.text

mov r0, #30 ;r0 = x

mov r1, #7 ;r1 = y

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 ;Clear one line in the display on the LCD screen.r0-line no(y)

mov r7, #0

mov pc, lr

[illegible]



