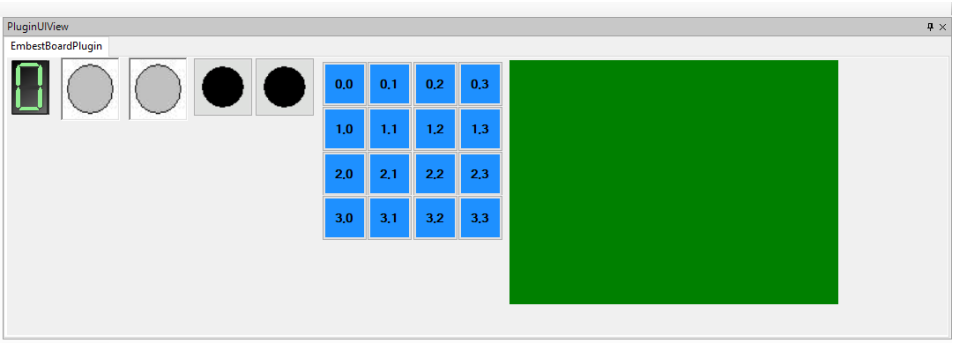
MPCA LAB WEEK 7

NAME: Y SRINIVAS
SECTION:I
SRN:PES1UG20CS517

#STRING MOVING

```
.text
mov r0, #25  ;r0 = x
mov r1, #4   ;r1 = y
mov r7, #0
ldr r8, =num
ldr r8, [r8]
ldr r2, =str
loop: swi 0x204   ;display a string on screen, address should be in r2 reg

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

.data
str:   .asciz  "HELLO WORLD"
num:  .word 128000
```



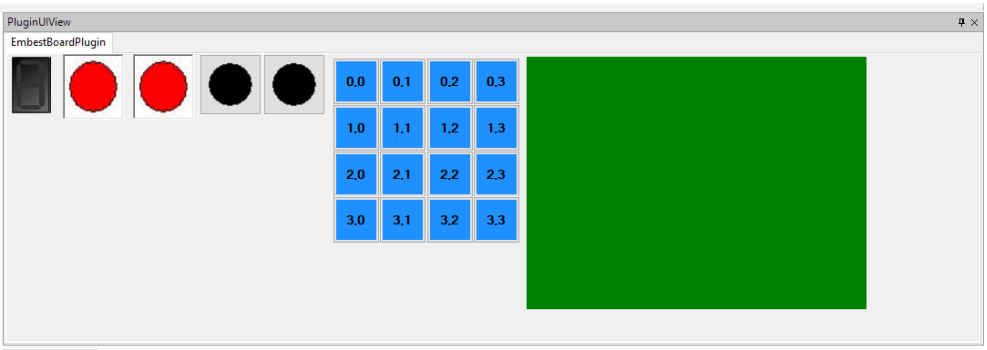
LED_DISPLAY.S

```
00001000:E3A00000        mov R0, #0
00001004:E3A02000        mov R2, #0
00001008:              again:
00001008:EF000202        swi 0X202 ; CHECK WHETHER BUTTON WAS CLICKED OR NOT
0000100C:E3500001        cmp r0, #1
00001010:0A000002        beq loop1
00001014:E3500002        cmp R0, #2
00001018:0A00000A        beq loop2
0000101C:EAFFFFF9        b again
00001020:              loop1:
00001020:E3A05010        mov r5, #16
00001024:E59F1058        ldr r1, =ZERO

00001028:              back1:
00001028:E5D10000        ldrb r0, [r1]
```

#LED BULBS

.TEXT

MOV R0, #0
LOOP:
  SWI 0X201
  ADD R0, R0, #1
  MOV R4, #64000
  DELAY:
    SUB R4, R4, #1
    CMP R4, #0
    BNE DELAY
  CMP R0, #3
  BLE LOOP
SWI 0X001



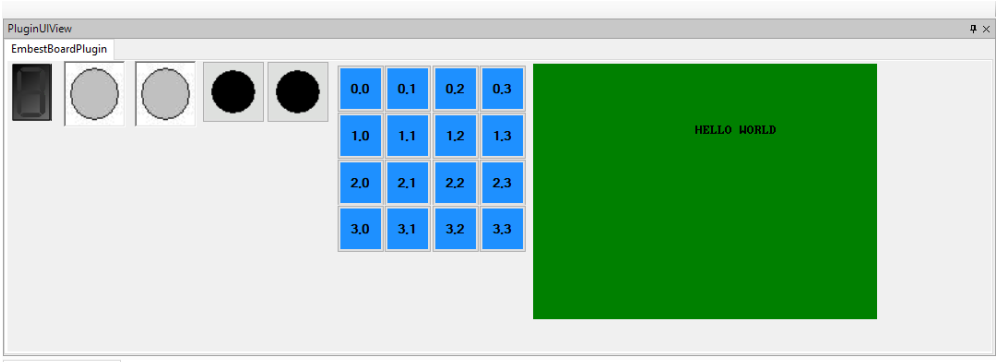
LED_BULBS.s

```
                         .TEXT
00001000:E3A00000        MOV R0, #0
00001004:              LOOP:
00001004:EF000201          SWI 0X201
00001008:E2800001          ADD R0, R0, #1
0000100C:E3A04CFA          MOV R4, #64000
00001010:                  DELAY:
00001010:E2444001              SUB R4, R4, #1
00001014:E3540000              CMP R4, #0
00001018:1AFFFFFC              BNE DELAY
0000101C:E3500003          CMP R0, #3
00001020:DAFFFFF7          BLE LOOP
00001024:EF000001        SWI 0X001
```

#LED DISPLAY

```
.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

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
    cmp r5, #0
    bne back2
    b again

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



stringMoving.s

```
                .text
00001000:E3A00019   mov r0, #25  ;r0 = x
00001004:E3A01004   mov r1, #4   ;r1 = y
00001008:E3A07000   mov r7, #0
0000100C:E59F8034   ldr r8, =num
00001010:E5988000   ldr r8, [r8]
00001014:E59F2030   ldr r2, =str
00001018:EF000204   loop: swi 0x204   ;display a string on screen, address should be in r2 reg

0000101C:EB000003   bl sum
00001020:E3500000   cmp r0, #0
00001024:12400001   subne r0, r0, #1
00001028:0F000011   swieq 0x11
0000102C:EAFFFFF9   b loop
```