

**Department of Computer Science & Engineering**

**Microprocessor & Computer Architecture–UE20CS252**

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**SECTION : I**

**SRN : PES1UG20CS516**

**MPCA–Laboratory/Assignment/Hands–on/Project**

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| **Sl. No.** | **Programs** |
| **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  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    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 |