PES University, Bangalore



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**B.Tech., 4thSemester, March 2022**

**UE20CS252: Microprocessor and Computer Architecture**

**Assignment – Week 7**

**Last Date of Submission : 20th April 2022.**

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| **Sl #** | **Question** |
| **1** | Display hexadecimal digits [0–9, A–F] on the 8 segment display.  **Code :**  .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  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 :** |