Date: 06/04/2021

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| Name of Professor | Prof.Mohit Gujar |

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| Experiment number | 7 |
| Experiment title | Write assembly language program to display 0-9 digit and a-f on seven Segment Display |
| Hardware requirement | 8051 Development kit, 7 Segment Display |
| Software requirement | Keil software |

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| Aim | Display number and few alphabets on seven segment display |
| Theory | * The Interfacing of 7 Segment Display With 8051 Microcontroller   interfacing 7 segment display to Atmel AT89S51  Seven segment LED display to an 8051 microcontroller. 7 segment LED display is  very popular and it can display digits from 0 to 9 and quite a few characters like A, b, C, ., H, E, e, F, etc. Knowledge about how to interface a seven segment display to a micro controller is very essential in designing embedded systems. A seven segment display consists of seven LEDs arranged in the form of a squarish**‘8’** slightly inclined to the right and a single LED as the dot character. Different characters can be displayed by selectively glowing the required LED segments. Seven segment displays are of two types, ***common cathode and common anode.*** |
| Algorithm / Flowchart | 1. Clear P0 and Clear Accumulator 2. load the array location in DPTR 3. move data from addition of A and DPTR 4. load accumulator value to P2 5. Increment the R7 and load R7 value in Accumulator 6. wait for sometime 7. Compare Accumulator with 10H and repeat step3 |
| Program | ORG 00000H  MOV P0,#00H  AG:MOV R7,#00H  MOV A,#00H  MOV DPTR ,#COD  REPEAT:MOVC A,@A+DPTR  MOV P2,A  INC R7  MOV A,R7  ACALL DELAY  CJNE A,#10H,REPEAT  SJMP AG  DELAY : MOV R2,#0FFH  NEXT: MOV R3,#0FFH  L1: DJNZ R3, L1  DJNZ R2, NEXT  RET  ORG 0100H  COD: DB 3FH, 06H,5BH,4FH,66H ,6DH ,7DH,07H,7FH,67H,77H,7CH,39H,5EH,79H,71H  END |
| Results / Output |  |
| Conclusion | Thus program written for display numbers and Alphabets on 7 segment display interfaced with 8051 microcontroller |

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| Faculty Sign | Grade received |