

# INSTITUTE OF COMPUTER TECHNOLOGY

## B-TECH COMPUTER SCIENCE ENGINEERING 2025-26

### SUBJECT: MICROCONTROLLER & APPLICATION

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**BRANCH:** CYBER SECURITY

**BATCH:** 52

### PRACTICAL\_7

**Aim:-** Learning to Interface Seven Segment Displays with 8051.

**1. Write a sample program to send some data on Seven Segment Displays. And prepare the hardware module on ISIS Proteus software, test it and then implement on physical hardware. Load the hex file prepared for the sample program in both, proteus and physical hardware and verify your logic whether it's working or not.**

**CODE:**

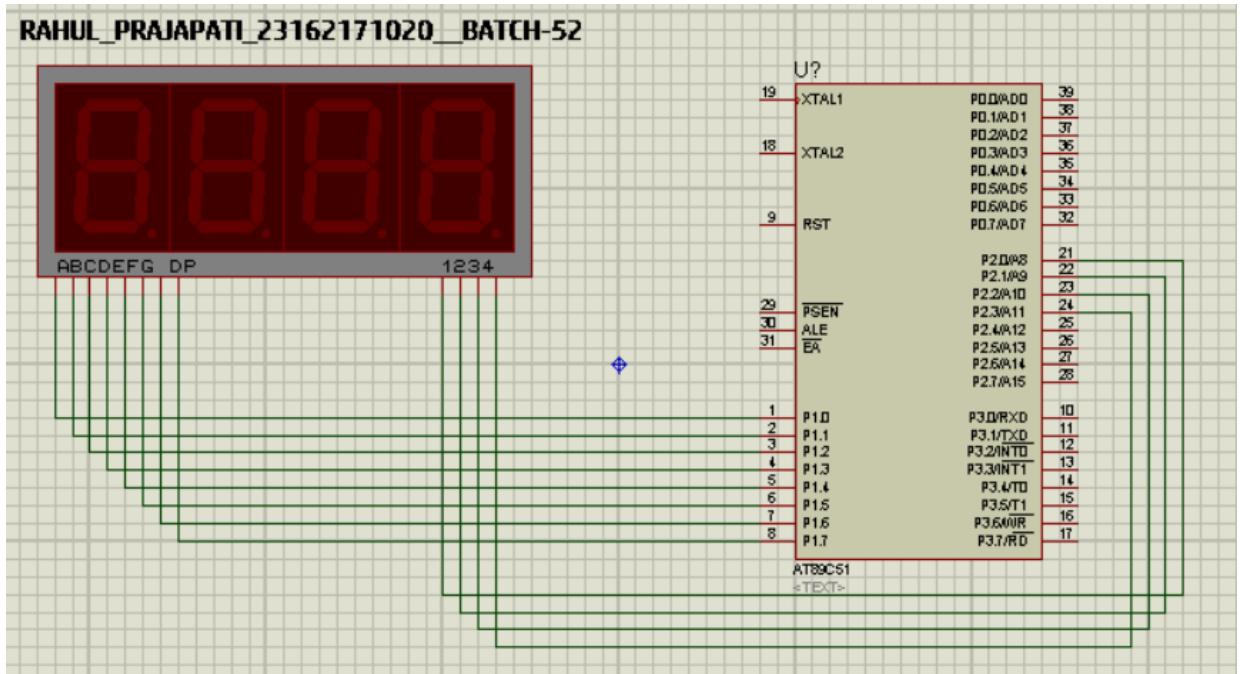
```

Project Workspace
  Target-1
    Source Group 1
      P7_LED.c

01 #include <reg51.h>
02
03 void delay()
04 {
05     int i,j;
06     for (i=0;i<300;i++) {
07         for (j=0;j<250;j++) {
08             }
09     }
10
11 int select_dig(int led_no)
12 {
13     int num []={0xFF, 0xFF, 0xFB, 0xF7, 0xF0};
14     return (num[led_no]);
15 }
16
17 int get_hex(int led_no)
18 {
19     int num []={0x3F, 0x06, 0x5B, 0xCF, 0x66, 0x6D, 0x7D, 0x7F, 0x6F};
20     return(num[led_no]);
21 }
22
23 int main()
24 {
25     int led_no[]={1,0,2,0};
26     while(1){
27         int i;
28         for(i=0;i<4;i++){
29             P2=select_dig(i);
30             P1=get_hex(led_no[i]);
31             delay();
32         }
33     }
34 }

```

→ SIMULATION: To see animation click on image .



### CONCLUSION:

In this practical, We understood the process of creating a HEX file from C code in Keil, loading it into Proteus, and simulating real hardware behavior by simulating 7 segment led. This helped us practically understand 8051 programming, data handling, and hardware interfacing concepts.