4x4 Keyboard Interfacing with 8051 Microcontroller

1. Create a new project in proteus
2. Pick devices
   1. at89c51
   2. Keypad-Smallcalc
   3. common cathode 7 seg = 7SEG-COM-CAT-GRN
3. Put all components in the board
4. Select Default from Terminal to add labels
5. Make the circuit.
6. Create a new project in Keil
7. Add the following code to the target source

ORG 0000H

MOV DPTR,#look\_up\_table

MOV A,#0FFh

MOV P1,#00000000B

reverse:MOV P3,#0FFh

CLR P3.0

JB P3.4,next\_find\_1

MOV A,#0D

ACALL disp\_000

next\_find\_1:JB P3.5,next\_find\_2

MOV A,#1D

ACALL disp\_000

next\_find\_2:JB P3.6,next\_find\_3

MOV A,#2D

ACALL disp\_000

next\_find\_3:JB P3.7,next\_find\_4

MOV A,#3D

ACALL disp\_000

next\_find\_4:SETB P3.0

CLR P3.1

JB P3.4,next\_find\_5

MOV A,#4D

ACALL disp\_000

next\_find\_5:JB P3.5,next\_find\_6

MOV A,#5D

ACALL disp\_000

next\_find\_6:JB P3.6,next\_find\_7

MOV A,#6D

ACALL disp\_000

next\_find\_7:JB P3.7,next\_find\_8

MOV A,#7D

ACALL disp\_000

next\_find\_8:SETB P3.1

CLR P3.2

JB P3.4,NEXT9

MOV A,#8D

ACALL disp\_000

NEXT9:JB P3.5,next\_find\_10

MOV A,#9D

ACALL disp\_000

next\_find\_10:JB P3.6,next\_find\_11

MOV A,#10D

ACALL disp\_000

next\_find\_11:JB P3.7,next\_find\_12

MOV A,#11D

ACALL disp\_000

next\_find\_12:SETB P3.2

CLR P3.3

JB P3.4,next\_find\_13

MOV A,#12D

ACALL disp\_000

next\_find\_13:JB P3.5,next\_find\_14

MOV A,#13D

ACALL disp\_000

next\_find\_14:JB P3.6,next\_find\_15

MOV A,#14D

ACALL disp\_000

next\_find\_15:JB P3.7,reverse

MOV A,#15D

ACALL disp\_000

LJMP reverse

disp\_000:MOVC A,@A+DPTR

MOV P1,A

RET

look\_up\_table:

DB 11100000B

DB 11111110B

DB 11110110B

DB 10011100B

DB 01100110B

DB 10110110B

DB 10111110B

DB 00111110B

DB 01100000B

DB 11011010B

DB 11110010B

DB 11101110B

DB 10011110B

DB 11111100B

DB 10001110B

DB 01111010B

END

1. Build hex file and set the hex file for microcontroller in proteus
2. Follow the video link

https://www.youtube.com/watch?v=xIoRF36f0t4