POLITECNICO
MILANO 1863

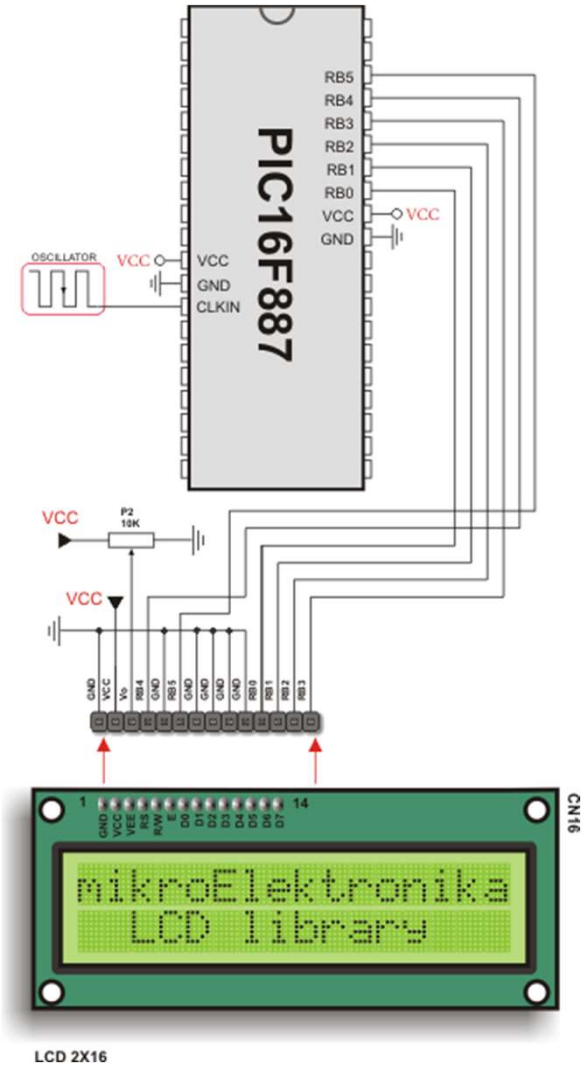
MICROCONTROLLERS

LAB – LCD

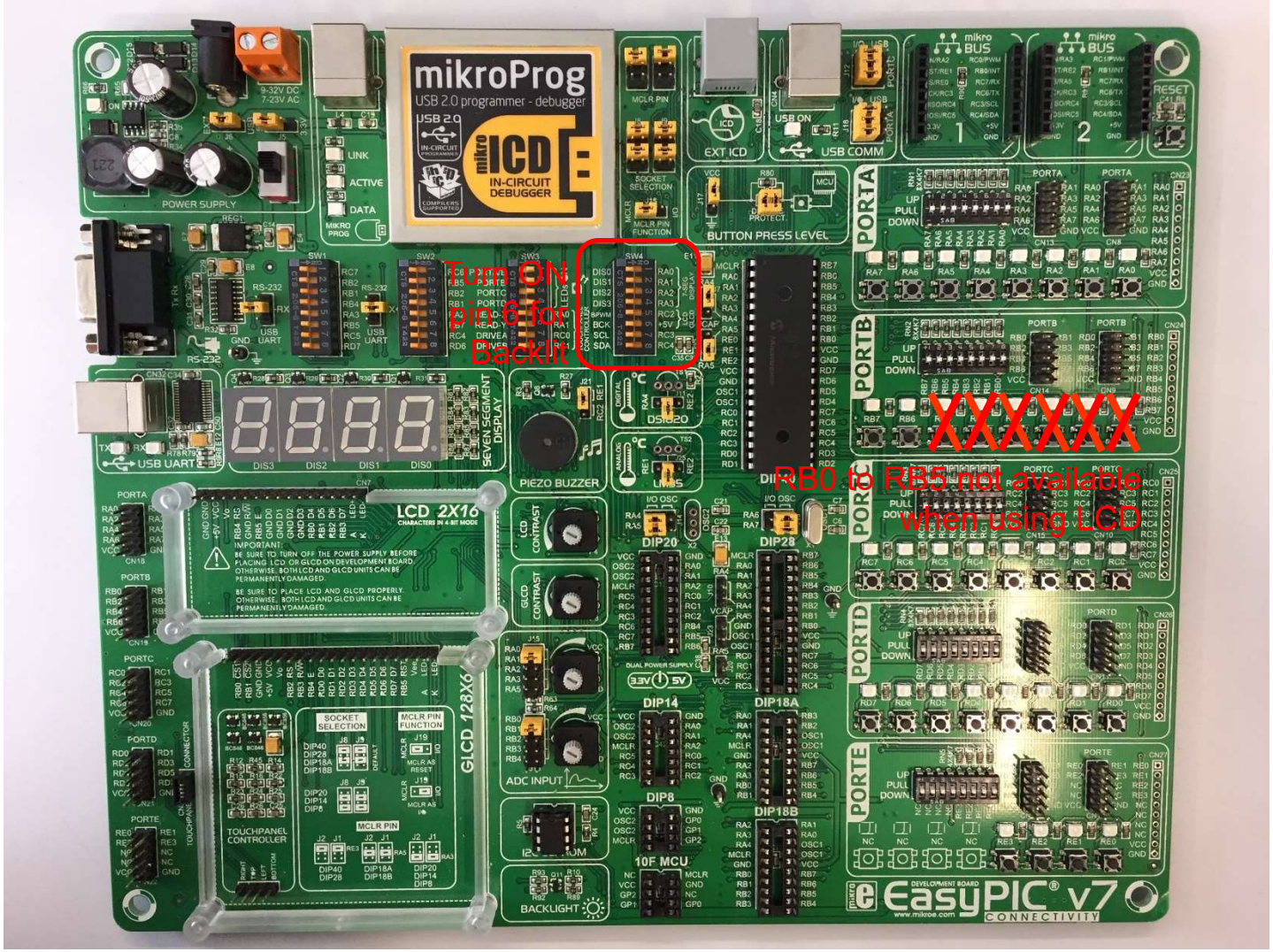
LCD 16x2

We will use a matrix LCD which can display up to 16 characters in two lines.

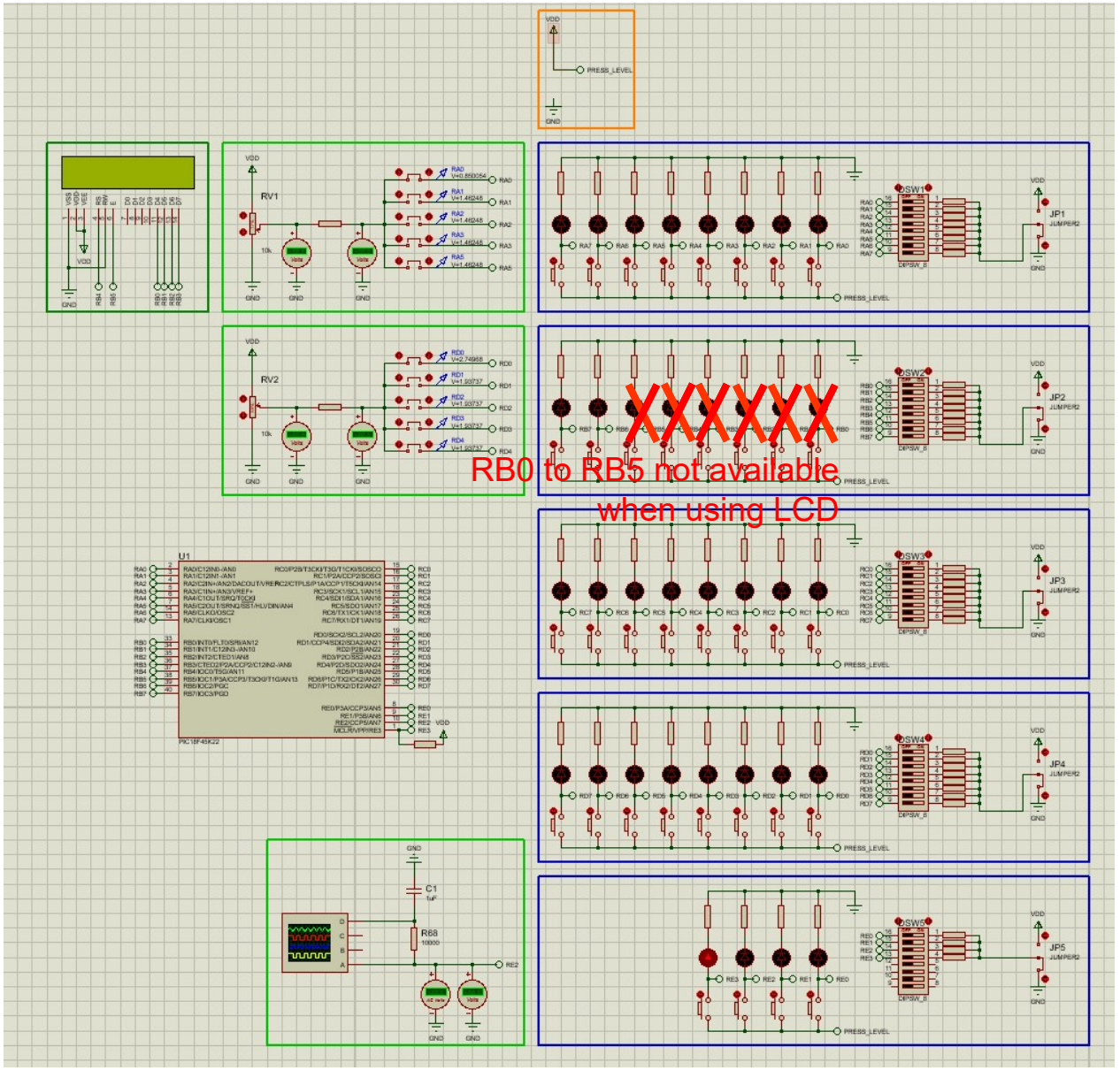
The programming/interfacing is not going to be covered in this laboratory, so we are going to use the libraries given by EasyPIC.



LCD Board Configuration



LCD Proteus Configuration



LCD How-To

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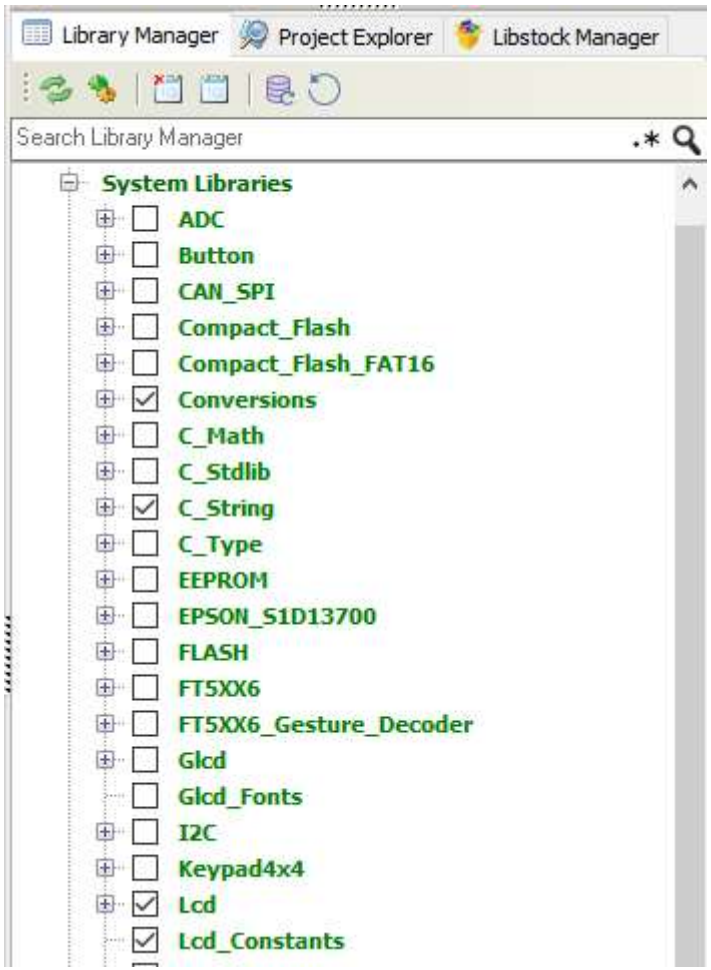
Enable the library



Specify the LCD position to the library

```
// Lcd module connections
sbit LCD_RS at LATB4_bit;
sbit LCD_EN at LATB5_bit;
sbit LCD_D4 at LATB0_bit;
sbit LCD_D5 at LATB1_bit;
sbit LCD_D6 at LATB2_bit;
sbit LCD_D7 at LATB3_bit;

sbit LCD_RS_Direction at TRISB4_bit;
sbit LCD_EN_Direction at TRISB5_bit;
sbit LCD_D4_Direction at TRISB0_bit;
sbit LCD_D5_Direction at TRISB1_bit;
sbit LCD_D6_Direction at TRISB2_bit;
sbit LCD_D7_Direction at TRISB3_bit;
// End Lcd module connections
```

Write on LCD

```
    Lcd_Init();

    Lcd_Cmd(_LCD_CLEAR);
    Lcd_Cmd(_LCD_CURSOR_OFF);

    Lcd_Out(1,1,"Hello World!");
```

String Functions

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```
char txt[17];
strcpy(txt,"my text");
```

Puts “my text” into the string txt.

NB: a txt of n character ned a string of n+1 (+1 is the terminator \0)

```
int numint = 12345;
char numtxt[7];
IntToStr(numint, numtxt);
```

Puts an integer into the string.

NB: int goes from -32.768 to +32.767 (5 digit + sign)

```
strcat(txt,numtxt);
```

Attach “numtxt” to “txt” and save the result into “txt”.