

# ENGINE



Erasmus+

TEACHING ONLINE ELECTRONICS, MICROCONTROLLERS AND PROGRAMMING  
IN HIGHER EDUCATION

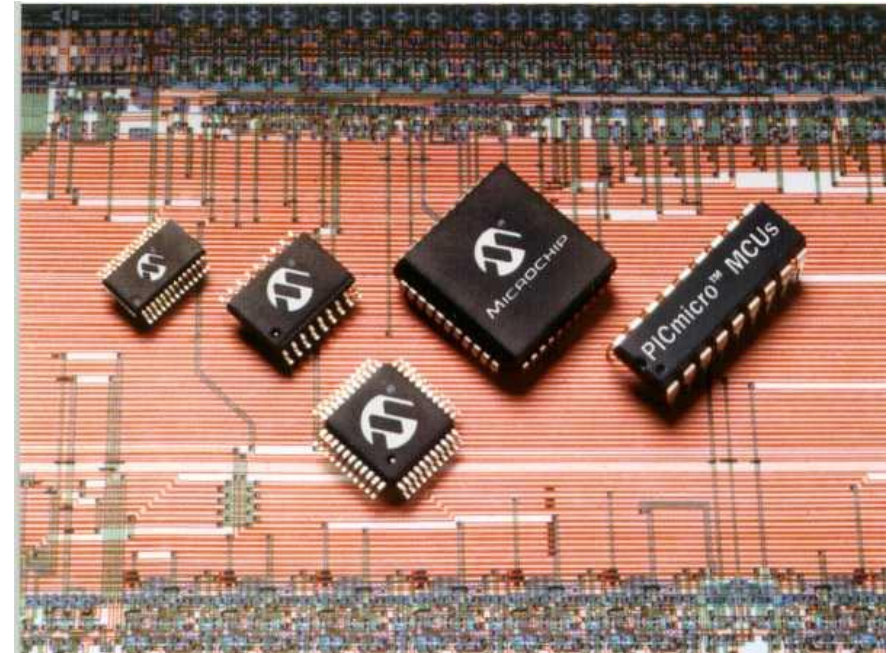
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## Module\_2-9. 7segment display

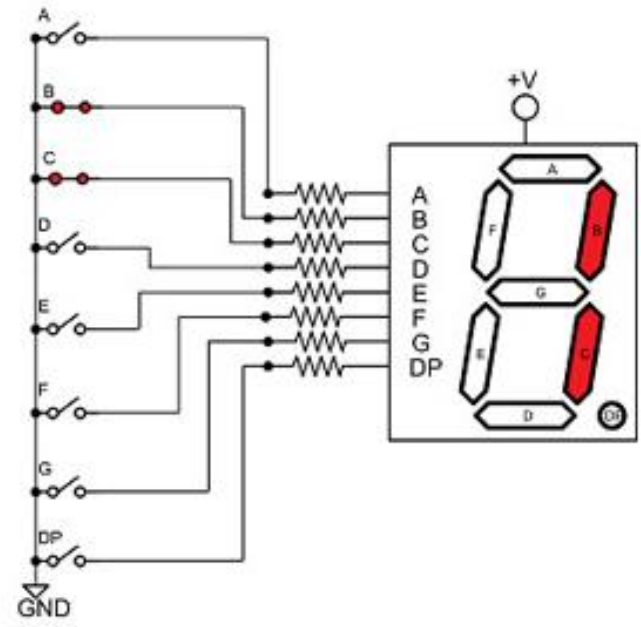
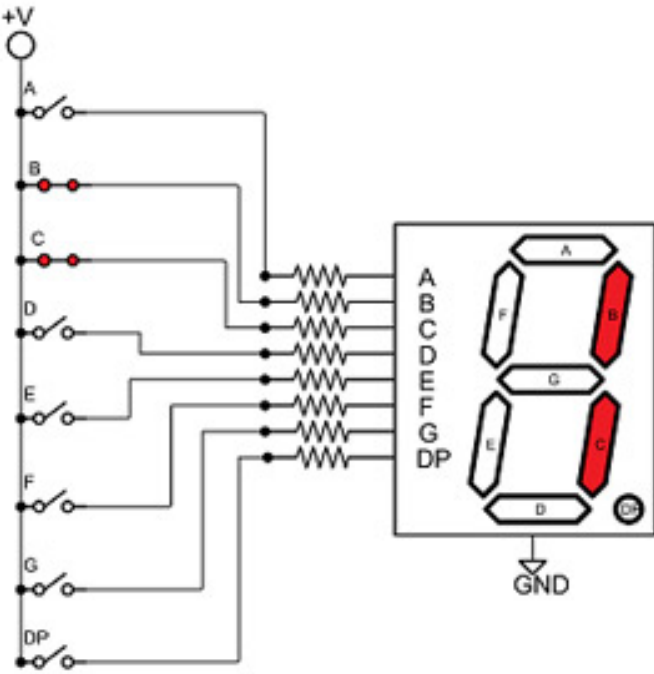
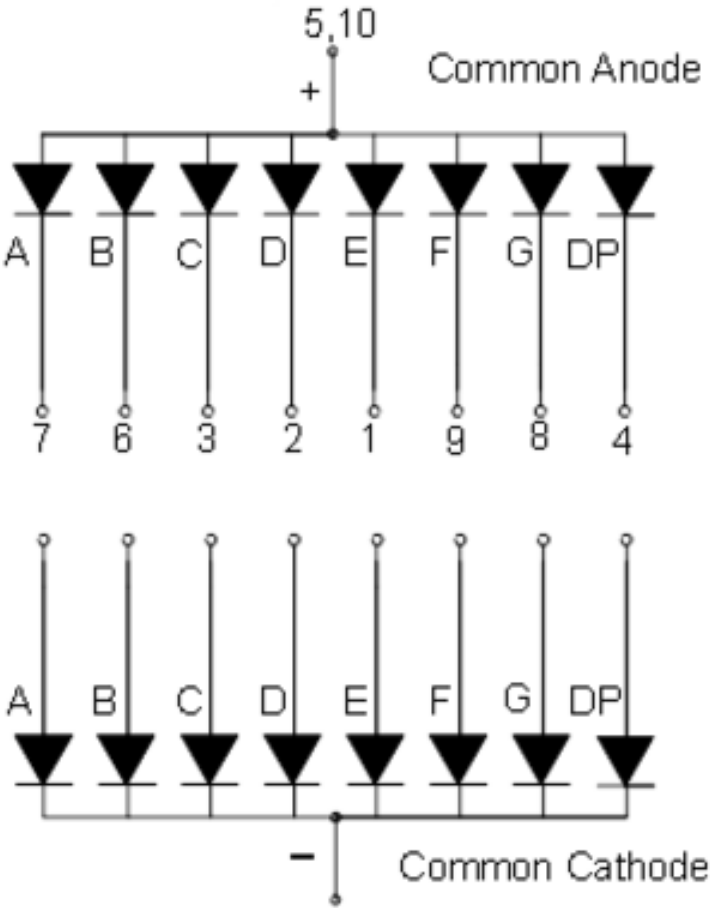
*PIC18F4550 with Proteus Simulation*

# Contents

- Connections
- Example

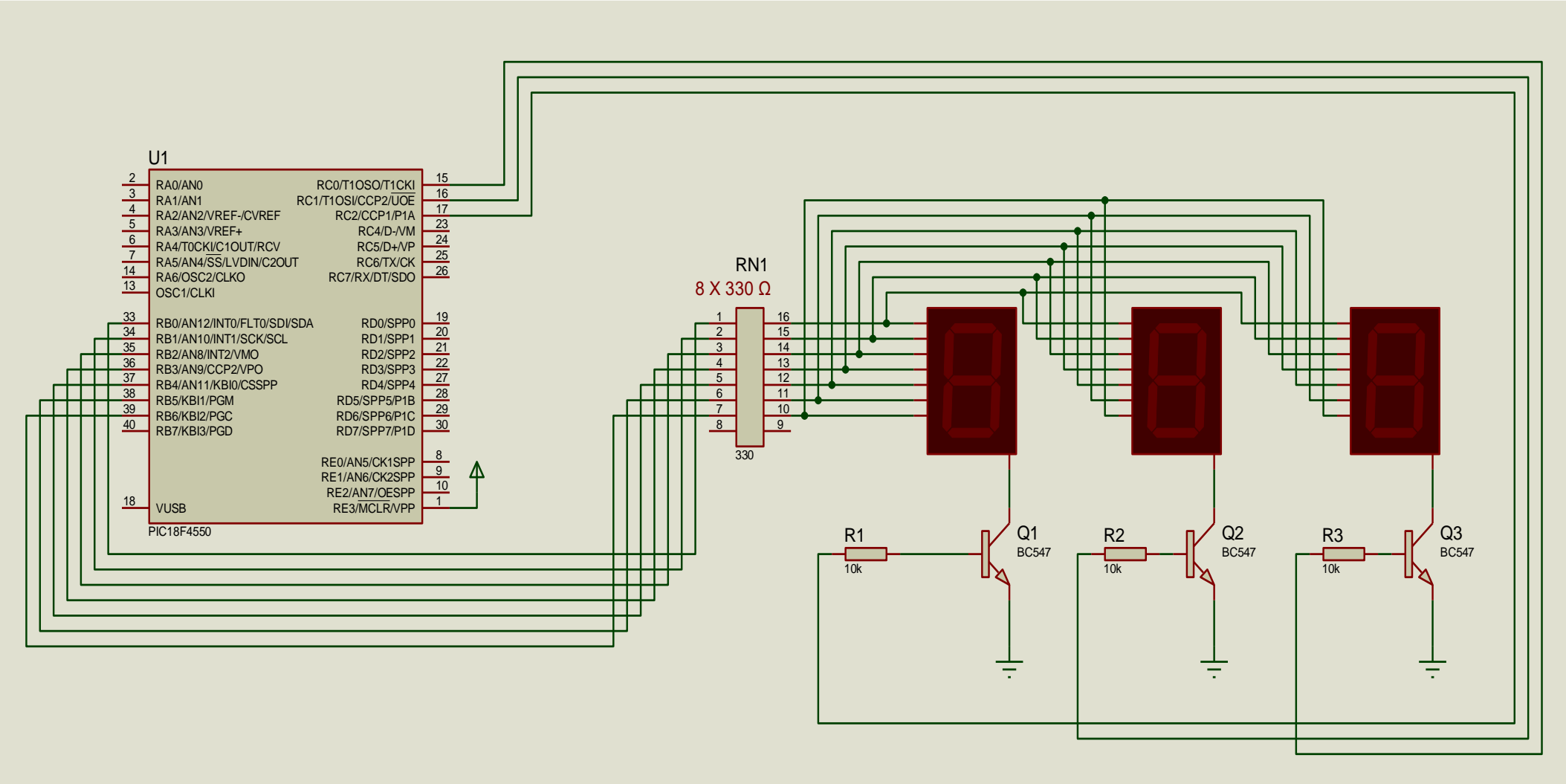


# Module\_2-9. 7segment display Connections



# Module\_2-9. 7segment display Connections

Display the number 123 on the three 7segment displays





# Module\_2-9. 7segment display Connections

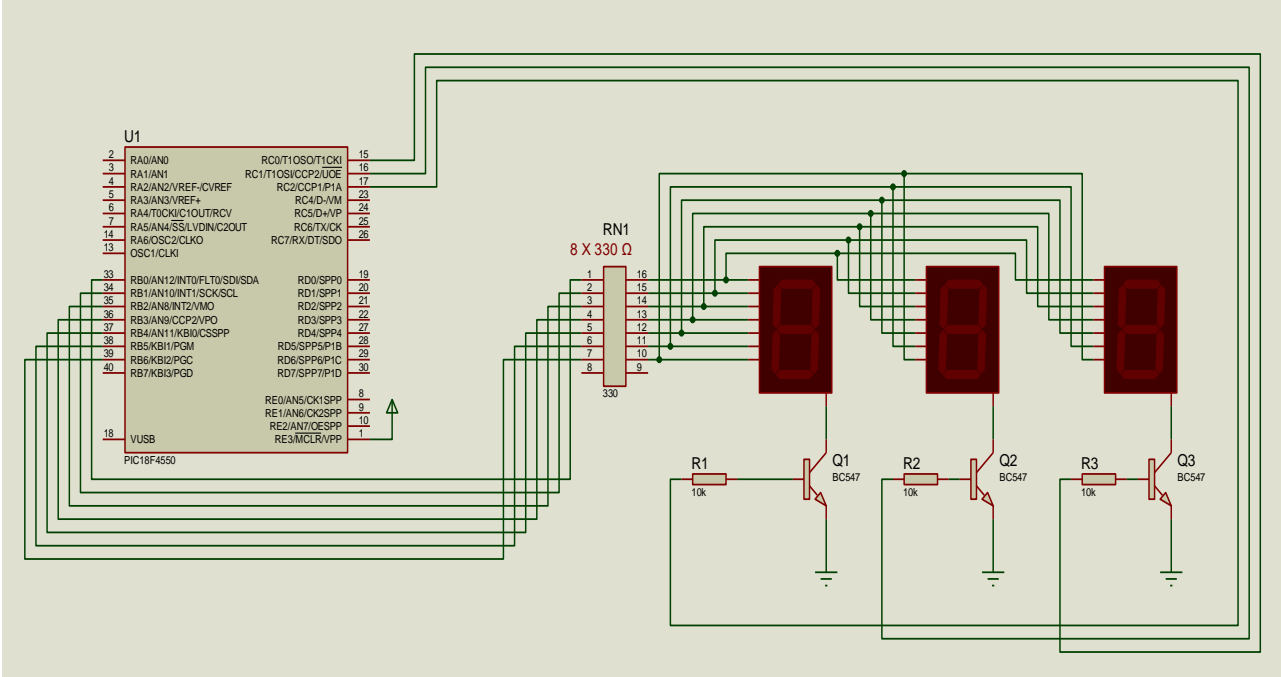
Display the number 123 on the three 7segment displays

We need to find the code to display each of the following digits: 1 2 3

For 1 to appear sectors b and c should be on, so PORTB should be sent the value 000 00110 (dp-g-f-e-d-c-b-a)

For 2 to appear sectors a, b, g and e should be on, so PORTB should be sent the value 0101 1011 (dp-g-f-e-d-c-b-a)

For 3 to appear sectors a, b, c, d, g should be on, so PORTB should be sent the value 01001111 (dp-g-f-e-d-c-b-a)



# Module\_2-9. 7segment display

## Example

```

#include <main.h>
#define PORTB=0xF81 //define PORTB data register
#define PORTC=0xF82 //define PORTC data register

void main()
{
    set_tris_b(0x00); // define PORTB as output
    set_tris_c(0x00); // define PORTC as output

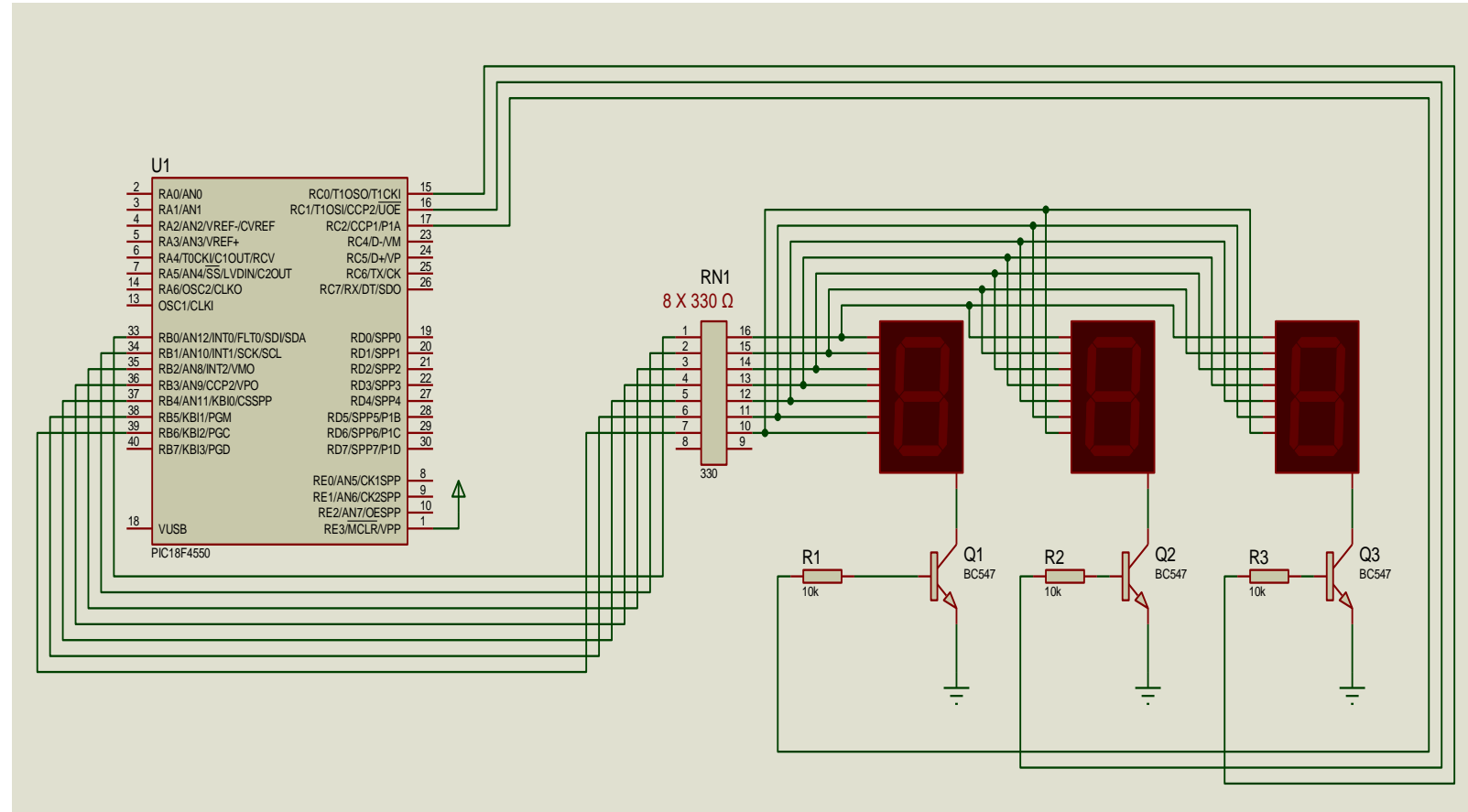
    while (TRUE){
        // the codes of each digit are sent every 5 ms
        // by activating the corresponding display

        //.....Number 3
        PORTC=0b00000001; //activate the right display
        PORTB=0b01001111; //code for "3"
        delay_ms(5);

        //.....Number 2
        PORTC=0b00000010; // activate the middle display
        PORTB=0b11011011; //code for "2".
        delay_ms(5);

        //.....Number 1
        PORTC=0b00000100; //activate the left display
        PORTB=0b00000110; //code for "1"
        delay_ms(5);
    }
}

```



## ENGINE Partnership

- Warsaw University of Technology (PL) - *coordinator*
- IHU - International Hellenic University (GR)
- EDUMOTIVA - European Lab for Educational Technology (GR)
- University of Padova (IT)
- University of Applied Sciences in Tarnow (PL)



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