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سكشن : 2
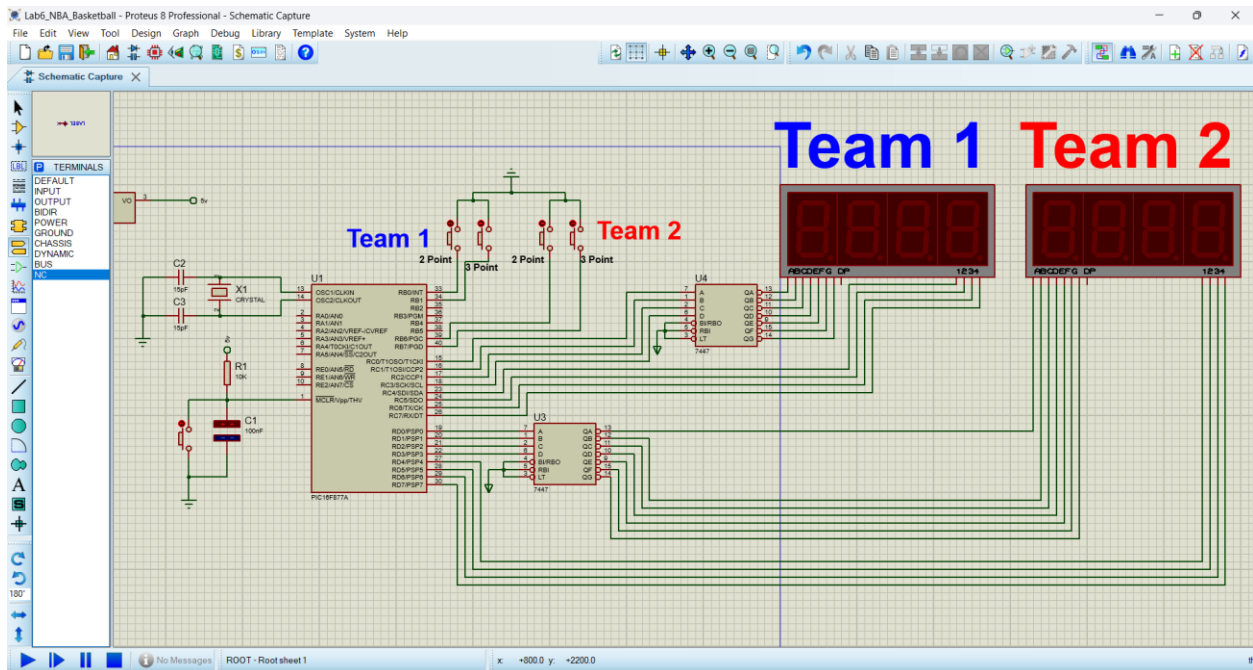
قسم هندسة الحاسبات ونظم التحكم

Lab 6 – Task

NBA Basketball Counter

....

Screenshot of the circuit

Code:

```c
/*
 * File:   main.c
 * Author: engay
 *
 * Created on April 17, 2024, 5:38 AM
 */




#include <xc.h>
#define _XTAL_FREQ (8000000)

#define Team1_2 PORTBbits.RB0
#define Team1_3 PORTBbits.RB1


#define Team2_2 PORTBbits.RB6
```

```c
#define Team2_3 PORTBbits.RB7

#define Team1_Seg PORTC
#define Team1_D1 PORTCbits.RC7
#define Team1_D2 PORTCbits.RC6
#define Team1_D3 PORTCbits.RC5

#define Team2_Seg PORTD
#define Team2_D1 PORTDbits.RD7
#define Team2_D2 PORTDbits.RD6
#define Team2_D3 PORTDbits.RD5

#define ON 1
#define OFF 0

#define Sev_delay_time 10
#define delay __delay_ms
```

```c
void Team1_Display(unsigned char num)
{
    // First Digit num%10
    Team1_Seg=num%10;

    Team1_D1=ON;
      Team1_D2=OFF;
      Team1_D3=OFF;

    delay(Sev_delay_time);

    // Second Digit (num/10)%10
    Team1_Seg=(num/10)%10;

      Team1_D1=OFF;
      Team1_D2=ON;
      Team1_D3=OFF;
```

```c
    delay(Sev_delay_time);

    // Third Digit (num/100)%10
    Team1_Seg=(num/100)%10;

    Team1_D1=OFF;
      Team1_D2=OFF;
      Team1_D3=ON;
    delay(Sev_delay_time);
}

void Team2_Display(unsigned char num)
{
    // First Digit num%10
    Team2_Seg=num%10;
```

```
Team2_D1=ON;
  Team2_D2=OFF;
  Team2_D3=OFF;
delay(Sev_delay_time);

// Second Digit (num/10)%10
Team2_Seg=(num/10)%10;

Team2_D1=OFF;
  Team2_D2=ON;
  Team2_D3=OFF;
delay(Sev_delay_time);

// Third Digit (num/100)%10
Team2_Seg=(num/100)%10;

Team2_D1=OFF;
  Team2_D2=OFF;
```

```c
        Team2_D3=ON;
    delay(Sev_delay_time);
}


void initial_condition(void)
{
    unsigned char num =
3000/(Sev_delay_time*6);

    while(num)
    {
        Team1_Display(101);
        Team2_Display(103);
        num--;
    }

    Team1_Display(0);
    Team2_Display(0);
```

```c
        return;
}


void main(void) {

    TRISB=0xff;
    OPTION_REGbits.nRBPU = 0;

    TRISC=0x00;
    TRISD=0x00;


    initial_condition();
```

```c
unsigned char team1=0,team2=0;

while(1)
{
    if(Team1_2==0)
    {
        team1+=2;
        while(Team1_2==0);
    }
    if(Team1_3==0)
    {
        team1+=3;
        while(Team1_3==0);
    }
    if(Team2_2==0)
    {
        team2+=2;
```

```
            while(Team2_2==0);
        }
        if(Team2_3==0)
        {
            team2+=3;
            while(Team2_3==0);
        }

    Team1_Display(team1);
    Team2_Display(team2);
    }

    return;
}
```