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Roll no: SIA77

Batch: D

Class: S.E IT-A

Assignmnet No: 04

Aim: Write an Embeded C program for sorting the numbers in ascending and descending order.

Program (Ascending Order):

```
#include <xc.h>
```

```
#include<stdlib.h>
```

```
#include<pic18f4550.h>
```

```
void main(void)
```

```
{
```

```
    int i,j,temp;
```

```
    int array[] = {0x04,0x01,0x02,0x05,0x03};
```

```
    for(i = 0 ; i < 5 ; i++ )
```

```
    {
```

```
        for(j = i + 1 ; j < 5 ; j++)
```

```
        {
```

```
            if(array[i] > array[j])
```

```
            {
```

```
                temp = array[i];
```

```
                array[i] = array[j];
```

```
                array[j] = temp;
```

```
            }
```

```
        }
```

```
    }
```

```
    TRISD=0;
```

```
    for(i=0; i <= 5; i++)
```

```
    {
```

```
        PORTD = array[i];
```

```

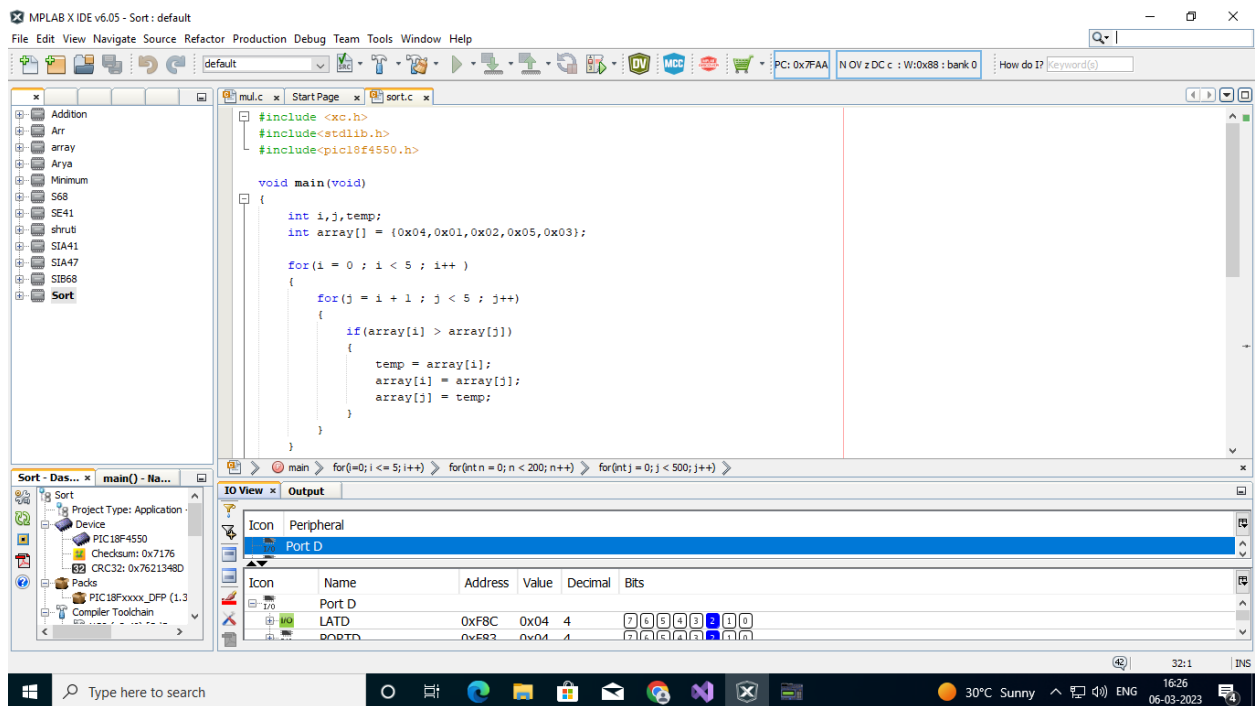
for(int n = 0; n < 200; n++)
{
    for(int j = 0; j < 500; j++)
    {

    }
}
return;
}

```

Output:

In MPLAB IDE



In PICSIM LAB

PICSimLab - PICGenios - PIC18F4550 - Sort.X.production.hex

File Board Microcontroller Modules Tools Help

Clk(MHz) 2

Spd: 1.00x Debug

LCD

hd44780 16x4

Heater

Cooler

Temp: 27.50°C

Running... Debug: Off Serial: com6:9600 (0.0%)

PICSimLab - PICGenios - PIC18F4550 - Sort.X.production.hex

File Board Microcontroller Modules Tools Help

Clk(MHz) 2

Spd: 1.00x Debug

LCD

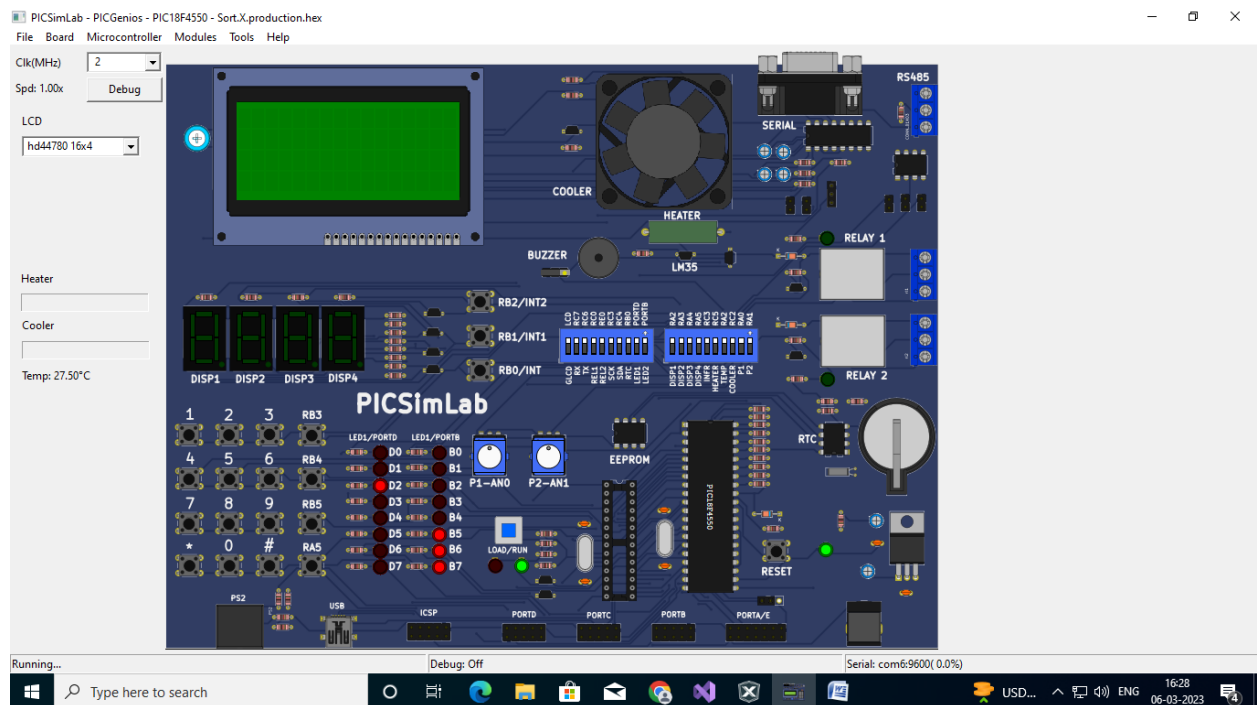
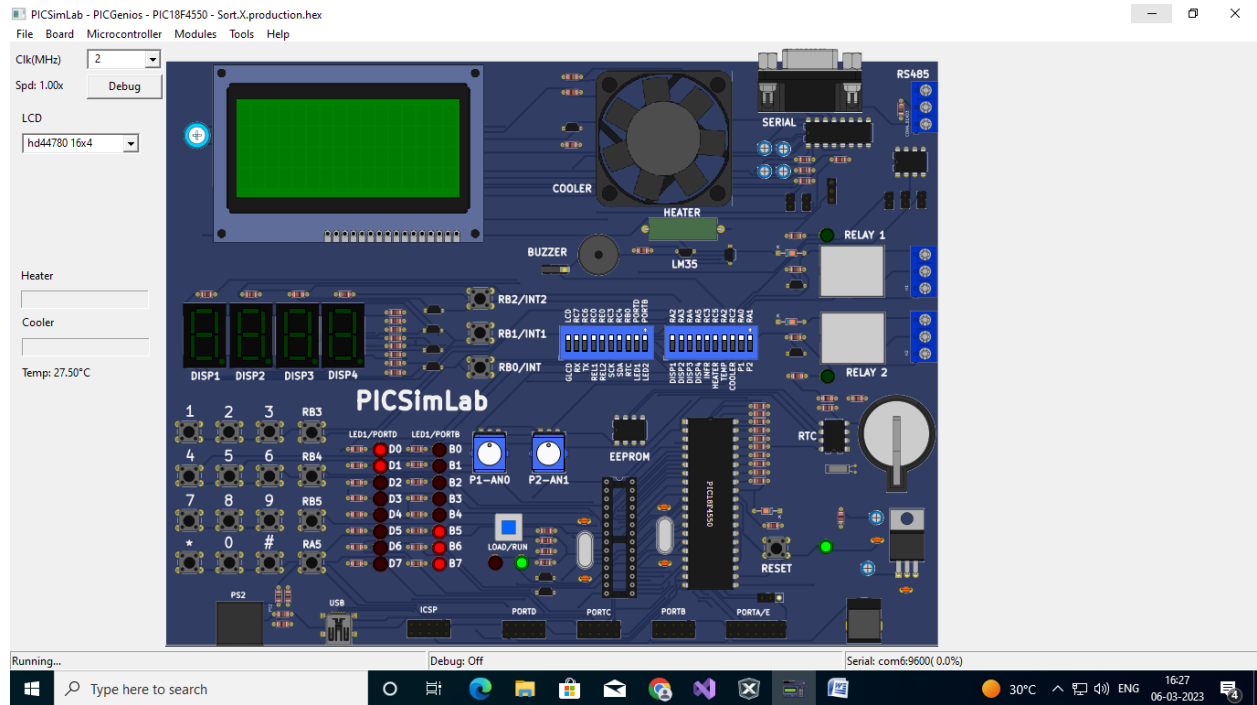
hd44780 16x4

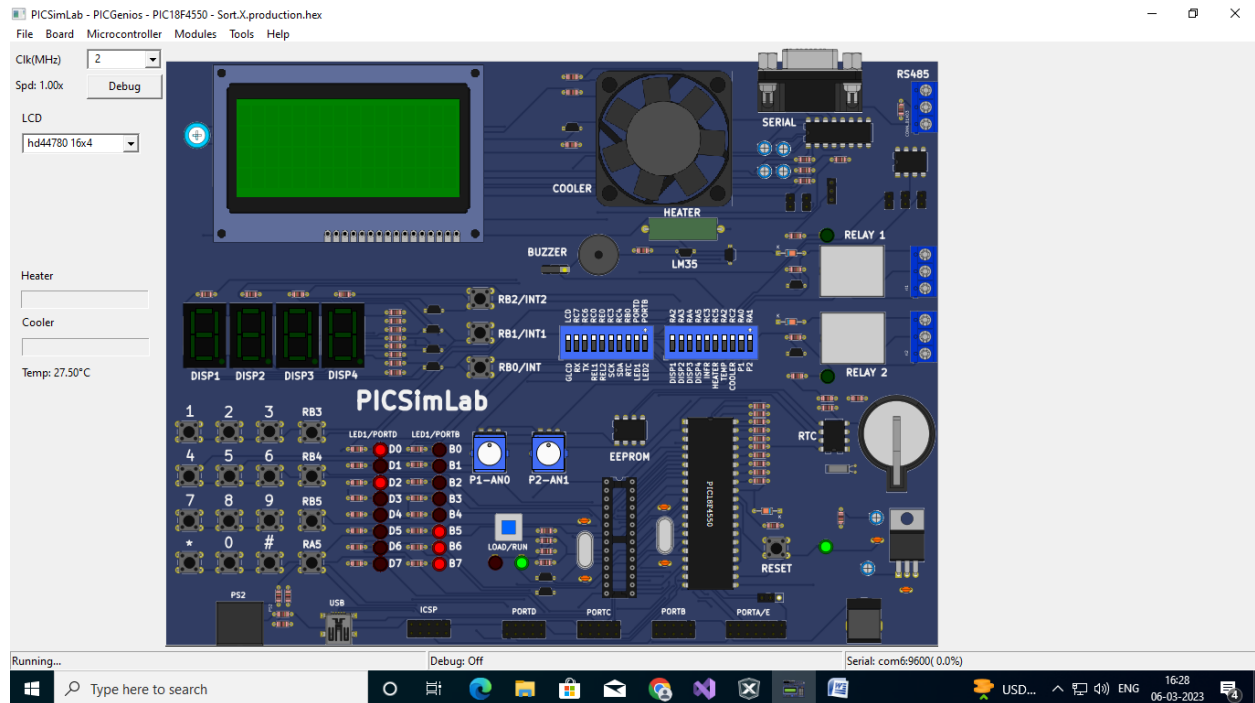
Heater

Cooler

Temp: 27.50°C

Running... Debug: Off Serial: com6:9600 (0.0%)





Program (descending order):

```
#include xc.h>
```

```
#include<stdlib.h>
```

```
#include<pic18f4550.h>
```

```
void main(void)
```

```
{
```

```
    int i,j,temp;
```

```
    int array[] = {0x04,0x01,0x02,0x05,0x03};
```

```
    for(i = 0 ; i < 5 ; i++ )
```

```
    {
```

```
        for(j = i + 1 ; j < 5 ; j++)
```

```
        {
```

```
            if(array[i] < array[j])
```

```
            {
```

```
                temp = array[i];
```

```
                array[i] = array[j];
```

```
                array[j] = temp;
```

```
            }
```

```
        }
```

```
    }
```

```

    }
}

TRISD=0;
for(i=0; i <= 5; i++)

{
    PORTD = array[i];
    for(int n = 0; n < 200; n++)

    {
        for(int j = 0; j < 500; j++)
        {

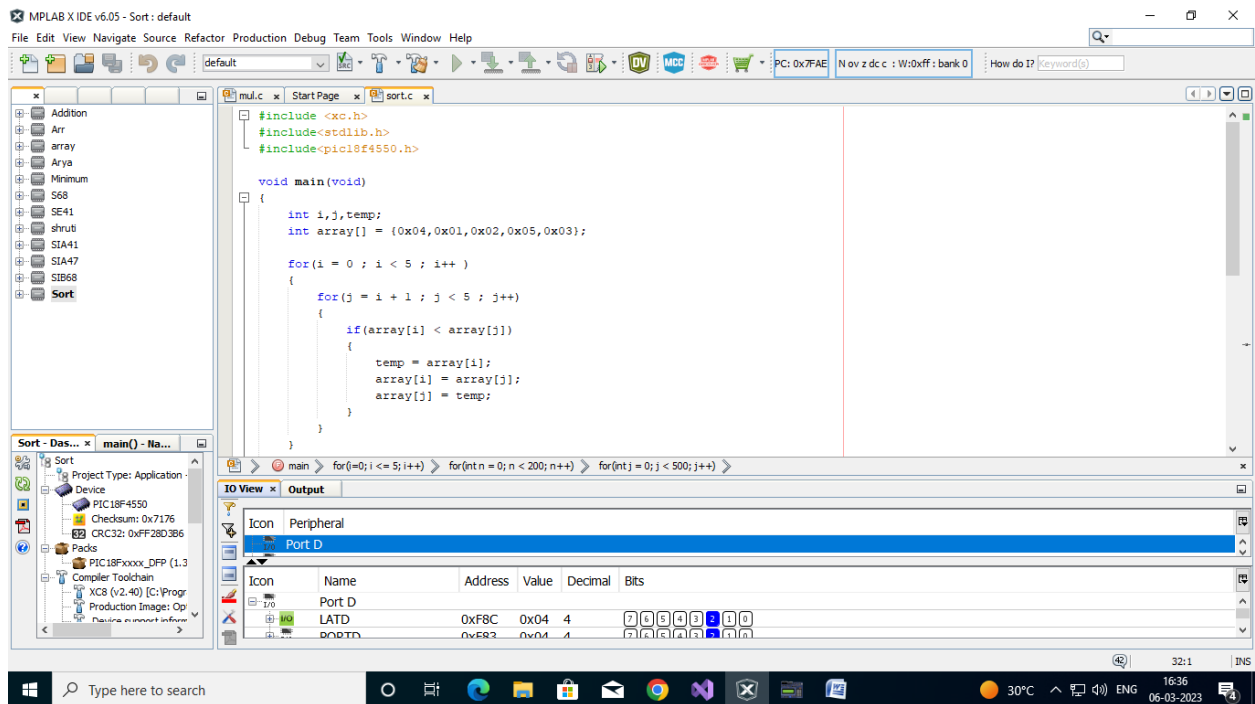
        }

    }
}
return;
}

```

Output:

In MPLAB IDE



In PICSIM LAB

