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M&A Practical 7

Aim : Learning to create hex file, loading in to hardware and observe the output on Proteus Software.

1. Write a sample program to switch ON the LEDs connected on port P3 one by one (without using bit level instructions) with some delay, load it into Proteus circuit, and observe the output on it.

Code :

```
#include <reg51.h>
delay()
{
    int i,j;
    for (i=0; i<200; i++)
    {
        for (j=0; j<100; j++)
        {
        }
    }
}

void main()
{
    int k;

    while(1)
    {
        P3 = 0X01;
        delay();
        P3 = 0X02;
        delay();
        P3 = 0X04;
        delay();
    }
}
```

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```
        P3 = 0X08;  
        delay();  
        P3 = 0X10;  
        delay();  
        P3 = 0X20;  
        delay();  
        P3 = 0X40;  
        delay();  
        P3 = 0X80;  
        delay();  
    }  
}
```

Output Video : [p7.1 - Proteus 8 Professional - Schematic Capture 2023-10-18 21-15-37.mp4](#)

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2. Blink Even LED of Port 1 than Port 2 than Port 3 than all together blink LED ON & OFF 5 times and in reverse Blink Odd LED. Repeat same for infinite times. Go through the output shown in below link and program accordingly.

Code :

```
#include<reg51.h>

void delay(){
    int i,j;

    for(i=0; i<200; i++){
        for(j=0; j<300; j++){

        }
    }
}

void main()
{
    while(1)
    {
        int k;
        P1 = 0x00;
        P2 = 0x00;
        P3 = 0x00;
        delay();
        P1 = 0x02;
        delay();
        P1 = 0x08;
        delay();
        P1 = 0x20;
```

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```
delay();  
P1 = 0x80;  
delay();  
P1 = 0x00;  
  
P2 = 0x02;  
delay();  
P2 = 0x08;  
delay();  
P2 = 0x20;  
delay();  
P2 = 0x80;  
delay();  
P2 = 0x00;  
  
P3 = 0x02;  
delay();  
P3 = 0x08;  
delay();  
P3 = 0x20;  
delay();  
P3 = 0x80;  
delay();  
P3 = 0x00;  
  
for (k=0; k<5; k++)  
{  
    P1= 0xFF;  
    P2= 0xFF;  
    P3= 0xFF;
```

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```
        delay();  
        P1= 0x00;  
        P2= 0x00;  
        P3= 0x00;  
        delay();  
    }
```

```
    P3 = 0x40;  
    delay();  
    P3 = 0x10;  
    delay();  
    P3 = 0x04;  
    delay();  
    P3 = 0x01;  
    delay();  
    P3 = 0x00;  
    delay();
```

```
    P2 = 0x40;  
    delay();  
    P2 = 0x10;  
    delay();  
    P2 = 0x04;  
    delay();  
    P2 = 0x01;  
    delay();  
    P2 = 0x00;  
    delay();
```

```
    P1 = 0x40;  
    delay();  
    P1 = 0x10;
```

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```
        delay();  
        P1 = 0x04;  
        delay();  
        P1 = 0x01;  
        delay();  
        P1 = 0x00;  
        delay();  
  
    }  
  
}
```

Output Video : [p7.2 - Proteus 8 Professional - Schematic Capture 2023-10-18 21-30-00.mp4](#)

Video folder : [MA Practicals Videos](#)

Link (if not opened on clicking) :

https://drive.google.com/drive/folders/1EdTE_UFdKT94byuH4RJJrLkb6wfnJNpB?usp=sharing