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Micro Processor & Embedded Systems Lab

EXPERIMENT 6

Aim:

Write a program for blinking LED(s) at any GPIO pins of 8051 Microcontroller (AT89C51).

Apparatus:

Keil software for writing programs and build the program to generate a hex file. (Link : https://www.keil.com/download/product/)

Theory:

8051 Microcontroller is a programmable device which is used for controlling purpose. Basically 8051 controller is Mask programmable means it will programmed at the time of manufacturing and will not programmed again, there is a derivative of 8051 microcontroller, **89c51 micro controller** which is re-programmable. AT89C51 89c51 is 8-bit device means it is capable of doing 8-bit operations. It have 4 ports which are used as input or output according to our need.

Procedure:

- ✓ Open Keil C51 Software.
- ✓ Create a new project LedBlink.
- ✓ Create a new text file, write the source code in the file and save it as .c extension.
- ✓ Add the existing .c file to the source group 1 in the project section.
- ✓ Start debugging and remove all the errors. Stop debugging after all the errors are removed.
- ✓ Go to Flash->configure Flash Tools->Output and then Select create Hex file option.
- ✓ Now go to rebuild to build the program.
- ✓ A message for Creating Hex File will be displayed in the Build Output Section.

Program Code:

```
# include<reg51.h>
void delay();
void main()
{
while(1)
{
P0=0X01;
delay();
P0=0X02;
delay();
P0=0X04;
delay();
P0=0X08;
delay();
P0=0X10;
delay();
P0=0X20;
```

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```
delay();
P0=0X40;
delay();
P0=0X80;
delay();
}}
void delay()
{
int i;
for(i=0;i<=30000;i++);
}
```

Output:

Keil Software Build Ouput