

Output

Before execution

Name	Value	Type
% A	0x00	char
<Enter expression>		

After execution

Name	Value	Type
% A	0x00	char
<Enter expression>		

Name	Value	Type
% A	0x01	char
<Enter expression>		

Name	Value	Type
% A	0x00	char
<Enter expression>		

Name	Value	Type
% A	0x3F '?'	char
<Enter expression>		

Experiment : 30

Aim: Write an ALP to generate Hex up counter

Tools required: Keil M vision 5

```
Code: ORG 0000H
      LAMP 8000H
      ORG 8000H
      MOV A, #00H
      UP: LCALL DELAY
      INC A
      CJNE A, #100H, UP
      LCALL 0003H
      DELAY: MOV R0, #0FFH
      BACK1: MOV R1, #0FFH
      BACK: MOV R2, #0FFH
      HERE: DJNZ R2, HERE
      DJNZ R1, BACK
      DJNZ R0, BACK1
      RET
      END
```

Result: An ALP to generate Hex up counter is executed successfully.

Output

Before execution

Name	Value	Type
A	0x00	char
<Enter expression>		

After execution

Name	Value	Type
A	0x00	char
<Enter expression>		

Name	Value	Type
A	0x01	char
<Enter expression>		

Name	Value	Type
A	0x02	char
<Enter expression>		

Name	Value	Type
A	0x30 '0'	char
<Enter expression>		

Experiment 3a

Aim: Write an ALP to generate BCD up counter

Tools required: Keil V. uVision 5

```
Code: ORG 0000H
      L JMP 8000H
      ORG 8000H
      MOV A, #00H
      UP: LCALL DELAY
      ADD A, #01H
      DAA A
      CJNE A, #30H, UP
      LCALL 0003H
      DELAY: MOV R0, #0FFH
      BACK1: MOV R1, #0FFH
      BACK2: MOV R2, #0FFH
      HERE: DJNZ R2, HERE
      DJNZ R1, BACK
      DJNZ R0, BACK1
      RET
      END
```

Result: An ALP to generate BCD up counter is executed successfully

Program to turn on the Buzzer

```
#include <REG52.h>
#define buz P1
sbit SW=P2^0;
long int i;
void main()
{
    while(1)
    {
        if (SW==0)
        {
            for(i=0;i<=90000;i++);
            if(SW==0)
            {
                while(SW==0);
                buz=0x01;    // ON Buzzer
                for(i=0;i<4500;i++); // Delay
                buz=0x00;    // OFF Buzzer
                for(i=0;i<4500;i++); // Delay
            }
        }
    }
}
```



```
#include<reg52.h>
sbit relay_pin = P2^0;
void Delay_ms(int);
void main()
{
    do
    {
        relay_pin = 0; //Relay ON
        Delay_ms(1000);
        relay_pin = 1; //Relay OFF
        Delay_ms(1000);
    }while(1);
}
void Delay_ms(int k)
{
    int j;
    int i;
    for(i=0;i<k;i++)
    {
        for(j=0;j<100;j++)
        {
        }
    }
}
```



```
#include<reg52.h> // special function register declarations
// for the intended 8051 derivative
```

```
sbit LED = P2^0; //Defining LED pin
```

```
void Delay(void); // Function prototype declaration
```

```
void main (void)
```

```
{while(1) //infinite loop
```

```
{ LED = 0; // LED ON
```

```
Delay();
```

```
LED = 1; // LED OFF
```

```
Delay();
```

```
}}
```

```
void Delay(void)
```

```
{ int j;
```

```
int i;
```

```
for(i=0;i<10;i++)
```

```
{
```

```
for(j=0;j<10000;j++)
```

```
{ } }}
```