
GROUP 3

Group Members

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Title :

Home automation using 8051 micro controller
and HC05 bluetooth module

Web Link - <https://circuitdigest.com/microcontroller-projects/bluetooth-controlled-home-automation-using-8051>

Part I

```
#include<reg51.h>
sbit Fan=P2^0;
sbit Light=P2^1;
sbit TV=P2^2;
char str;
char Charin=0;
void delay(int time)
{
    unsigned int i,j;
    for(i=0;i<time;i++)
        for(j=0;j<1275;j++);
}
void Serialwrite(char byte)
{
    SBUF=byte;
    while(!TI);
    TI=0;
}
void Serialprintln(char *p)
{
    while(*p)
    {
        Serialwrite(*p);
        p++;
    }
    Serialwrite(0x0d);
}
void Serialbegin()
{
    TMOD=0x20;
    SCON=0x50;
    TH1=0xfd;
    TR1=1;
}
Fan=1;
Serialprintln(" Fan ON");
delay(50);
}
```

Code

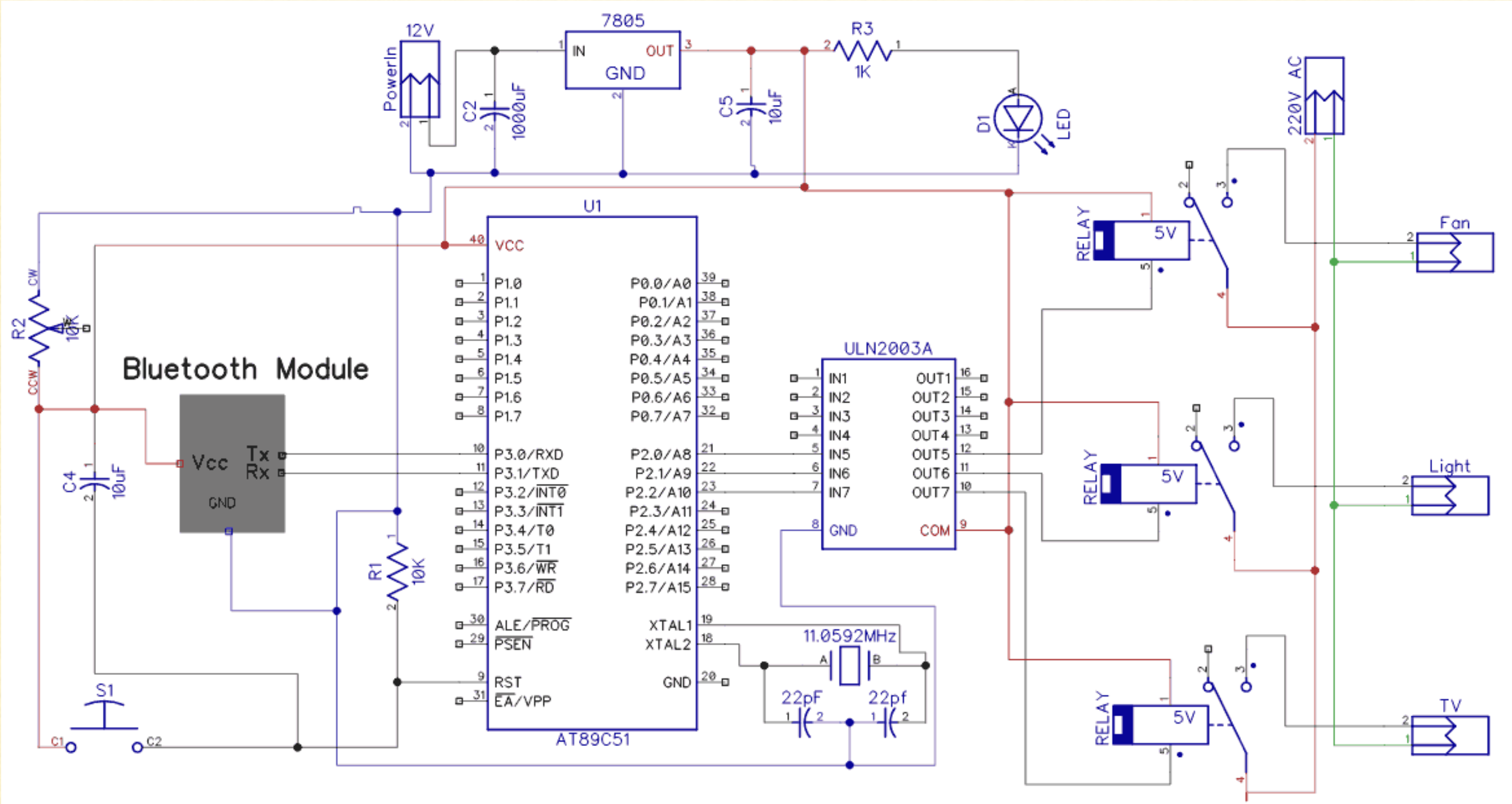
Part II

```
void main()
{
    P2=0x00;
    Serialbegin();
    Serialprintln("System Ready...");
    delay(50);
    while(1)
    {
        while(!RI);
        Charin=SBUF;
        str=Charin;
        RI=0;
        if(str=='1')
        {
            else if(str=='2')
            {
                Fan=0;
                Serialprintln(" Fan OFF");
                delay(50);
            }
            else if(str=='3')
            {
                Light=1;
                Serialprintln(" Light ON");
                delay(50);
            }
        }
    }
}
```

Part III

```
else if(str=='4')
{
    Light=0;
    Serialprintln(" Light OFF");
    delay(50);
}
else if(str=='5')
{
    TV=1;
    Serialprintln(" TV ON");
    delay(50);
}
else if(str=='6')
{
    TV=0;
    Serialprintln(" TV OFF");
    delay(50);
}
str=0;
```

Circuit Diagram



ESTIMATED COST

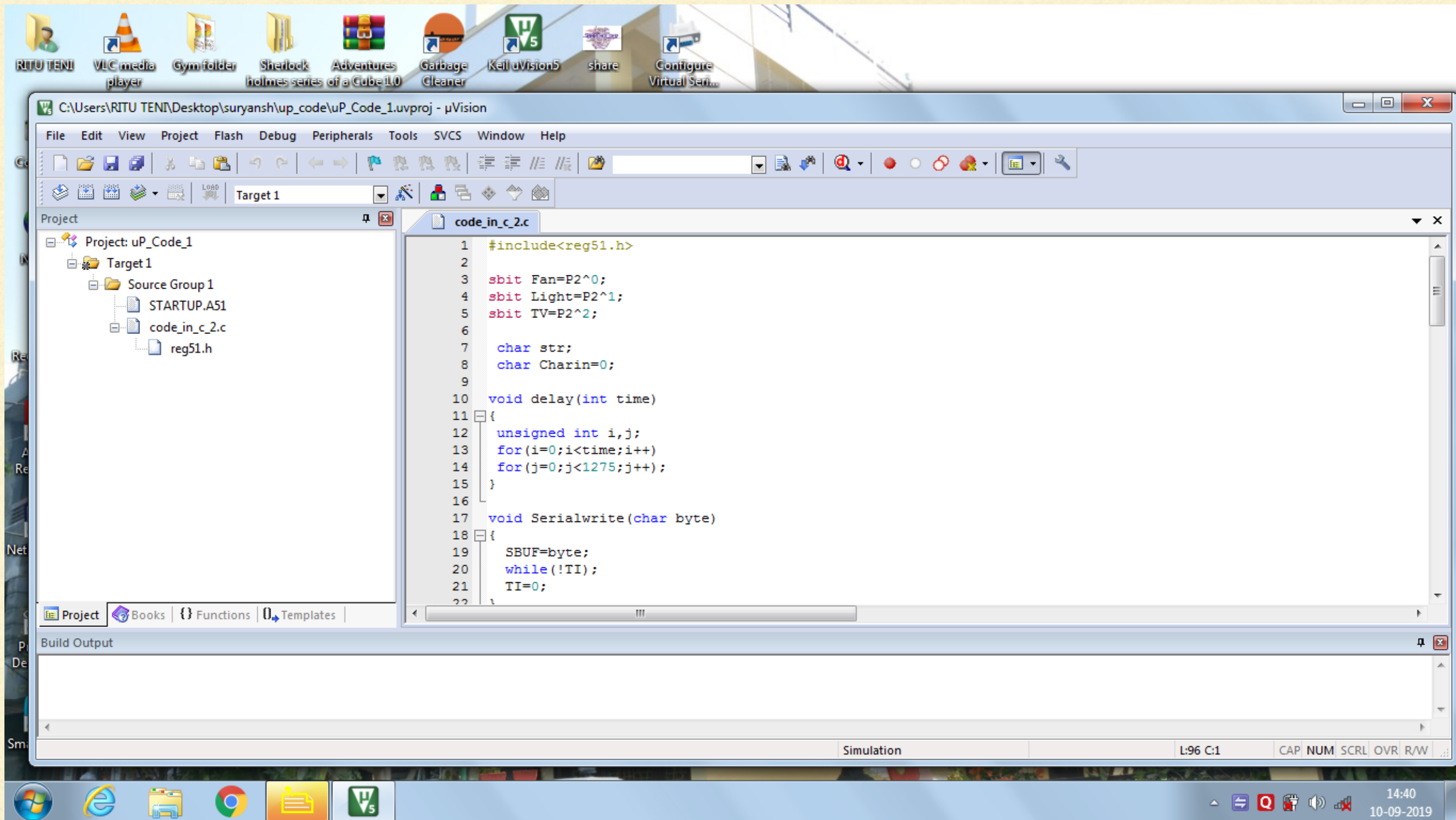
8051 Microcontroller : 200
Bluetooth Moddule HC05 : 200
5v relay : 40 per piece
ULN 2003 : 100

Approx Total Cost: 700

COMPONENT LIST

- 8051 Microcontroller
 - WiFi module ESP8266
 - Wire
 - 10uF capacitor
 - 1000uF capacitor
 - Bulb, bulb holder, wire(3)
 - 220v AC Power supply
 - 12v DC power supply
 - Breadboard
 - Android phone - For controlling bluetooth module
 - ULN2003 - It is a 7-NPN darlington pair IC(1)
 - IC 7805 - Voltage regulator IC
 - 1k resistor (1)
 - 10k resistor (1)
 - Relay 5v (3)
 - LED(1)
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Keil Screenshot



Proteus Screenshot

