

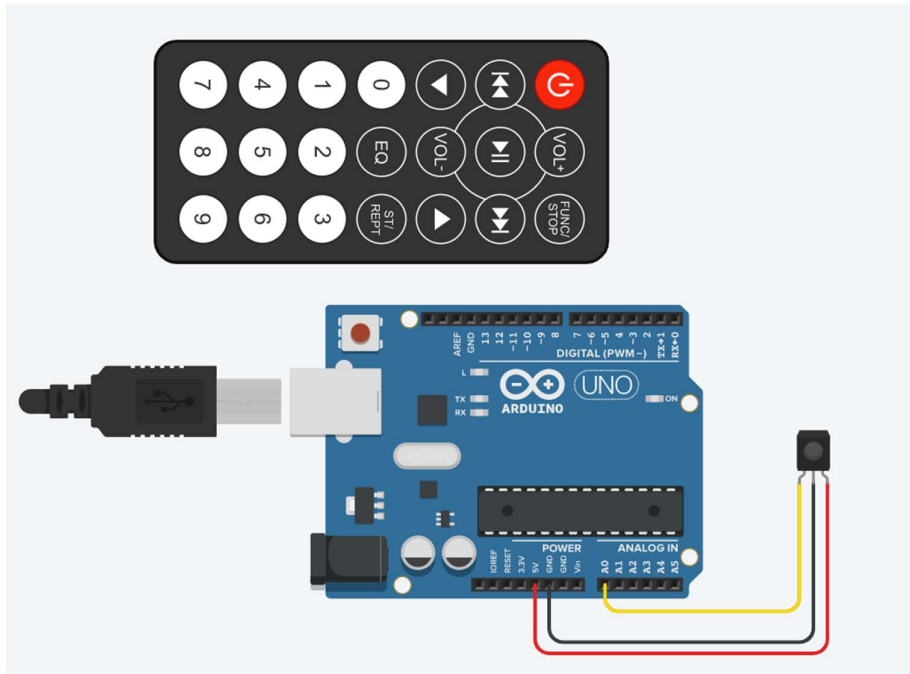
Practical No. 22

Aim: To interface IR remote with Arduino Write a program to create useful commands from the IR remote control.

Component: Arduino Uno, IR Sensor

Theory:

Circuit Diagram:



Program:

```
#include <IRremote.h>
```

```
int IRpin = A0;
```

```
IRrecv IR(IRpin);
```

```
decode_results res;
```

```
void setup()
```

```
{
```

```
  Serial.begin(9600);
```

```

    IR.enableIRIn();
    IR.blink13(true);
}

void loop()
{
    while(IR.decode(&res) == 0){
    }
    IR.resume();
    if (res.value == 0xFD08F7){
        Serial.print("Hex Value : ");
        Serial.println(res.value,HEX);
    }

    else if (res.value == 0xFD8877){
        Serial.print("Hex Value : ");
        Serial.println(res.value,HEX);
    }

    else if (res.value == 0xFD48B7){
        Serial.print("Hex Value : ");
        Serial.println(res.value,HEX);
    }
}

```

Output:



Practical No. 23

Aim: To interface RGB led and IR remote, write a program to control RGB led with IR remote.

Component:

Quantity	Component
1	Arduino Uno R3
1	IR sensor
1	LED RGB
1	0.2 k Ω Resistor
2	1 k Ω Resistor

Theory:

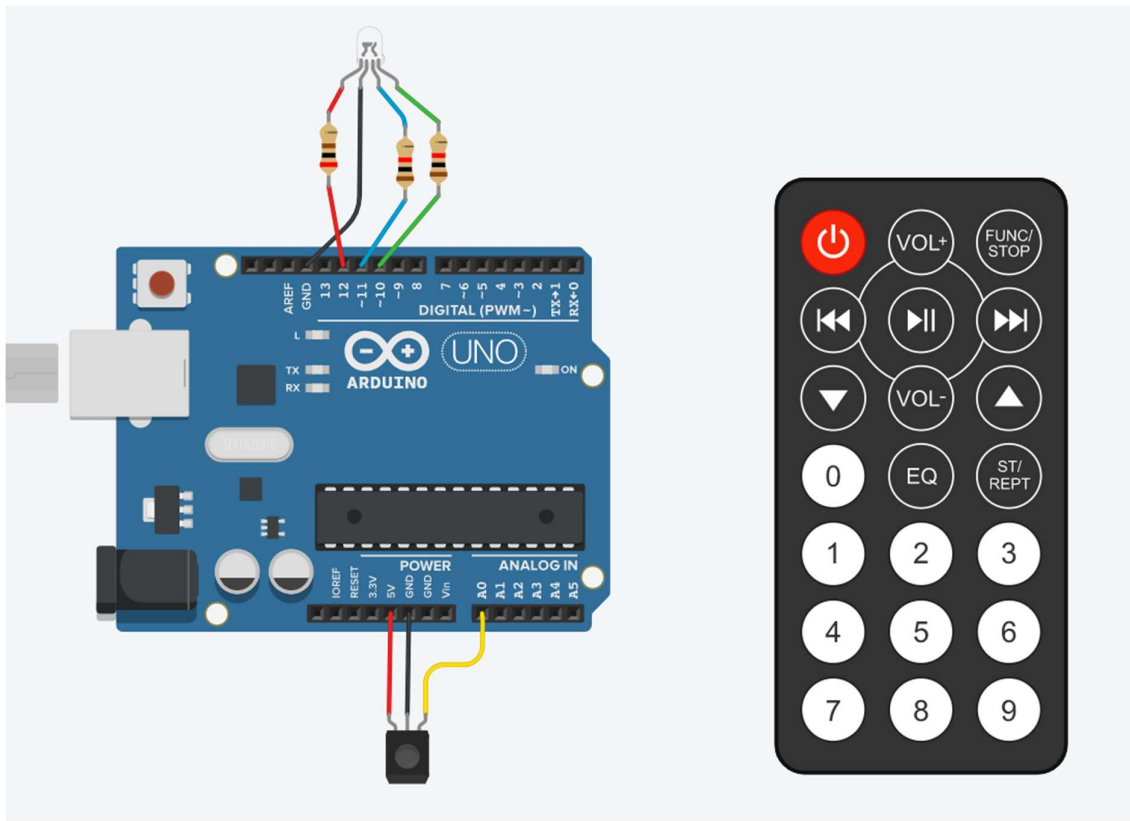
(InfraRed remote control) A handheld, wireless device used to operate audio, video and other electronic equipment within a room using light signals in the infrared (IR) range.

Infrared light requires line of sight to its destination. Low-end remotes use only one transmitter at the end of the unit and have to be aimed directly at the equipment.

High-quality remotes have three or four powerful IR transmitters set at different angles to shower the room with signals.



Circuit Diagram:



Program:

```
#include <IRremote.h>
```

```
int IRpin = A0;
```

```
IRrecv IR(IRpin);
```

```
decode_results res;
```

```
int red = 12;
```

```
int blue = 11;
```

```
int green = 10;
```

```
void setup()
```

```
{
```

```
  Serial.begin(9600);
```

```
  IR.enableIRIn();
```

```
IR.blink13(true);  
pinMode(red, OUTPUT);  
pinMode(blue, OUTPUT);  
pinMode(green, OUTPUT);  
}
```

```
void loop()  
{  
  while(IR.decode(&res) == 0){  
    }  
    //Serial.println(res.value);  
    //Serial.print("Hex Value : ");  
    Serial.println(res.value,HEX);  
    IR.resume();  
    if (res.value == 0xFD08F7){  
      digitalWrite(red, HIGH);  
      digitalWrite(blue, LOW);  
      digitalWrite(green, LOW);  
    }  
  }
```

```
    else if (res.value == 0xFD8877){  
      digitalWrite(red, LOW);  
      digitalWrite(blue, HIGH);  
      digitalWrite(green, LOW);  
    }  
  }
```

```
    else if (res.value == 0xFD48B7){  
      digitalWrite(red, LOW);  
      digitalWrite(blue, LOW);  
      digitalWrite(green, HIGH);  
    }  
  }
```

}}

Output:

