ID 1: 19016258

ID 2: 19016250

Name 1: محمد إبراهيم القطب عبد العزيز قطب

Name 2: محمد أيمن سعيد محمود

Problem Statement:

b- Remote Control Blink Rate

Use any Infrared remote control (Receiver or TV remote should work) as an indicator to the blink rate of an LED by directing the IR beam to the IR receiver (1838).

You are required to control the delay between blinking using the numbers on the remote control. By pressing '1' the blink rate will be 100ms, by pressing '9' it will be 900ms.

NOTE: In order to read the value of each remote control button you have to use an external library: https://github.com/z3t0/Arduino-IRremote

Please read the library documentation and how to use it since there will be a collision with the RobotIRremote library that comes already with the arduino software. One approach is to delete the RobotIRremote , the other is to simply rename the downloaded library files and includes to another name. You should clearly show the pressing of the remote buttons and their effect on the serial monitor as well as the blinking LED during the discussion. (Use at least 2 blink rates).

Implementation:

```
#include <IRremote.h>



#define recPin 3
#define ledPin 12

IRrecv irrecv(recPin);
decode_results results;


unsigned long lastBlinkTime = 0;        // Last Time the LED Blinked in ms
int blinkRate = 0;  // Blink rate Controlled by user
int high = 0;       // flag for HIGH or LOW LED OUTPUT


void setup(){
  pinMode(ledPin, OUTPUT);
  pinMode(recPin, INPUT);
  irrecv.enableIRIn();
  Serial.begin(9600);
  }
```

```
void loop(){




  if(irrecv.decode(&results)){

   long remoteInVal = results.value;

   irrecv.resume();

   switch(remoteInVal){
     case 33444015 : blinkRate = 100;  break;            // Button (1)
     case 33478695 : blinkRate = 200;  break;            // Button (2)
     case 33486855 : blinkRate = 300;  break;            // Button (3)
     case 33435855 : blinkRate = 400;  break;            // Button (4)
     case 33468495 : blinkRate = 500;  break;            // Button (5)
     case 33452175 : blinkRate = 600;  break;            // Button (6)
     case 33423615 : blinkRate = 700;  break;            // Button (7)
     case 33484815 : blinkRate = 800;  break;            // Button (8)
     case 33462375 : blinkRate = 900;  break;            // Button (9)
     case 33480735 : blinkRate = 0;                      // Button (0)
     default : break;

   }
  }
  // if Button (0) then always high
  if(blinkRate == 0){
    high = 1;
  }
```

```
57    // Blinking Rate Controller
58    while(millis() - lastBlinkTime > blinkRate){
59
60      lastBlinkTime = millis();
61      if(high){
62        digitalWrite(ledPin, HIGH);
63        high = 0;
64      }
65      else{
66        digitalWrite(ledPin, LOW);
67        high = 1;
68      }
69    }
70
71    Serial.println(blinkRate);
72
73
74
75
76
77
78
79  }
```