```cpp
//start libraries
#include <Servo.h>
#include "Arduino.h"
#include "SoftwareSerial.h"
#include "DFRobotDFPlayerMini.h"
//We declared the pins for Ultrasonic sensor
int trigPin = 7;
int echoPin = 8;
//We declared variables for Ultrasonic sensor
float velocidad = 0.0343;
long duracion, distancia ;
//We declared the pins for LEDS
int LED1 = 10;
int LED2 = 11;
//We declared the servomotor
Servo servogir;
int pausa = 1000;//time to pause
//We declared the pins for DFPlayer
const int Rx = 3;
const int Tx = 5;
SoftwareSerial mySerial(Rx, Tx); //conect Tx and Rx
or vice versa
DFRobotDFPlayerMini myMP3; //Declared the SD

void setup()
{
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  pinMode(LED1, OUTPUT);
  pinMode(LED2, OUTPUT);
  digitalWrite (LED1 , LOW);
  digitalWrite (LED2 , LOW);
```

```
  servogir.attach(9);//We declared the pin for
servomotor
  mySerial.begin(9600);
  Serial.begin(9600);
  if (!myMP3.begin(mySerial)) {
    while (true);
  }
  myMP3.setTimeOut(500); //Set serial communicacion
time out 500ms
  myMP3.volume(30); //Set volumen (0~30).
 myMP3.EQ(DFPLAYER_EQ_NORMAL);
 myMP3.outputDevice(DFPLAYER_DEVICE_SD);
}
void loop()
{
  digitalWrite(trigPin, LOW);
  delayMicroseconds(2);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);
  duracion = pulseIn(echoPin, HIGH);
  distancia = velocidad * duracion / 2;

  if ( distancia < 20) { //when the distance is
smaller than 20 cm the sensor is activated
    servogir.write(0);//initial position of Servo
    delay(pausa);
    servogir.write(180);//second position of Servo
    delay(pausa);
    if (servogir.read() == 180) {//When the servo
is at 180° it happens...
      delay(pausa/2);
```

```
      digitalWrite (LED1 , LOW);//LED's turn ON
      digitalWrite (LED2 , LOW);
      delay(pausa);
     myMP3.play(1);//start the audio
      delay(10000);
    }
   delay(pausa/2);
   servogir.write(0);//servo returns to initial
position
    delay(pausa);
  }
  else {
    servogir.write(0);
    digitalWrite (LED1 , HIGH);
    digitalWrite (LED2 , HIGH);
  }
}
```