```
#include <Servo.h>

const int trigPin = 6;
const int echoPin = 7;


Servo servoHand;
Servo servoWingRight;
Servo servoWingLeft;
int pos = 0;
int ledHead = 4;


void setup(){

  Serial.begin(9600);

  servoHand.attach(13);
  servoWingRight.attach(11);
  servoWingLeft.attach(9);
  pinMode(ledHead, OUTPUT);

}



void loop(){



  long duration, inches, cm;


  pinMode(trigPin, OUTPUT);

  digitalWrite(trigPin, LOW);

  delayMicroseconds(2);

  digitalWrite(trigPin,HIGH);
```

```
delayMicroseconds(5);

digitalWrite(trigPin, LOW);



pinMode(echoPin, INPUT);

duration = pulseIn(echoPin, HIGH);


inches = microsecondsToInches(duration);
cm = microsecondsToCentimeters(duration);


Serial.print(inches);
Serial.print("inches, ");
Serial.print(cm);
Serial.print("cm");
Serial.println();



if (cm <= 31) {sweep(10);

}



else if (cm >= 31) {servoHand.write(pos);


delay(50);
}

if (cm <= 31) {sweepWing_r(8);

}
```

```
  else if (cm >= 31) {servoWingRight.write(pos);

  delay(50);
  }


  if (cm <= 31) {sweepWing_l(8);

  }

  else if (cm >= 31) {servoWingLeft.write(pos);

  delay(50);
  }

   if (cm <= 31) {digitalWrite(ledHead, HIGH);

  }

  else if (cm >= 31) {digitalWrite(ledHead, LOW);

  delay(50);
  }




}


   long microsecondsToCentimeters(long microseconds)
   {
    return microseconds / 29 / 2;
   }



    long microsecondsToInches(long microseconds)
    {
      return microseconds / 74 / 2;
```

```
    }


void sweep(int NUM_OF_CYCLES){


  for (int j=0; j<NUM_OF_CYCLES;j++)


  for(pos = 0; pos < 400; pos += 1)


     servoHand.write(pos);

     delay(50);
}

void sweepWing_r(int NUM_OF_CYCLES){


  for (int j=0; j<NUM_OF_CYCLES;j++)


  for(pos = 0; pos < 180; pos += 1)


     servoWingRight.write(pos);

     delay(10);
}

void sweepWing_l(int NUM_OF_CYCLES){
```

```
  for (int j=0; j<NUM_OF_CYCLES;j++)



  for(pos = 0; pos < 180; pos += 1)



     servoWingLeft.write(pos);

     delay(10);
}
```