```
#include <Servo.h>

Servo mirrorServo;

const int trigPin = 8;
const int echoPin = 11;
const int servoPin = 6;

long duration;
int distance;
int lastAngle = 170;

void setup() {
  mirrorServo.attach(servoPin);
  mirrorServo.write(lastAngle);
  pinMode(trigPin, OUTPUT);
  pinMode(echoPin, INPUT);
  Serial.begin(9600);
}

void loop() {
  // Ultrasonic pulse
  digitalWrite(trigPin, LOW);
  delayMicroseconds(1);
  digitalWrite(trigPin, HIGH);
  delayMicroseconds(10);
  digitalWrite(trigPin, LOW);

  // Read echo
  duration = pulseIn(echoPin, HIGH);
  distance = duration * 0.034 / 2;
```

```
  Serial.print("Distance: ");
  Serial.println(distance);  int newAngle;
    do {
      newAngle = random(20, 170); // Avoid extreme servo limits
    } while (abs(newAngle - lastAngle) < 70); // Ensure noticeable change


    mirrorServo.write(newAngle);
   lastAngl/*e = newAngle;
    delay(1000); // Wait before next detection
  }

  delay(200); // Sensor refresh rate
}
```