

ASSIGNMENT 1

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```
// C++ code
```

```
#include
```

```
<Servo.h> int dist = 0;
```

```
long readUltrasonicDistance(int triggerPin, int echoPin)
```

```
{
```

```
    pinMode(triggerPin, OUTPUT); // Clear the trigger digitalWrite(triggerPin, LOW);
```

```
    delayMicroseconds(2);
```

```
    // Sets the trigger pin to HIGH state for 10 microseconds digitalWrite(triggerPin, HIGH);
```

```
    delayMicroseconds(10);
```

```
    digitalWrite(triggerPin, LOW);
```

```
    pinMode(echoPin, INPUT);
```

```
    // Reads the echo pin, and returns the sound wave travel time in microseconds
```

```
    return pulseIn(echoPin, HIGH);
```

```
}
```

```
Servo servo_8; void
```

```
setup()
```

```
{
```

```
    servo_8.attach(8, 500, 2500); pinMode(2,
```

```
    INPUT); pinMode(12, OUTPUT);
```

```
    pinMode(A0, INPUT); pinMode(9, OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

```
dist = 0.01723 * readUltrasonicDistance(7, 7);
if (dist <= 100) {
    servo_8.write(90);
    delay(1000); // Wait for 1000 millisecond(s)
} else { servo_8.write(0);
    delay(1000); // Wait for 1000 millisecond(s)
}

if (digitalRead(2) == 1) { digitalWrite(12,
    HIGH);
    delay(1000); // Wait for 1000 millisecond(s)
} else {
    digitalWrite(12, LOW);
    delay(1000); // Wait for 1000 millisecond(s)
}

if (analogRead(A0) > 200) {
    digitalWrite(9, HIGH);
    delay(1000); // Wait for 1000 millisecond(s)
} else {
    digitalWrite(9, LOW);
    delay(1000); // Wait for 1000 millisecond(s)
}
```

