```
#define trigPin1 9
#define echoPin1 6
#define trigPin2 3
#define echoPin2 5

double duration, distance,H1=18.00,one,two,H2=4.00,H3=12.00,H4=4.00;
//const int valve = 13;
//const int valve1 = 12;
int flag = 0,x=0,y=0,INDX = 0;

void setup()
{
Serial.begin (9600);
pinMode(trigPin1, OUTPUT);
pinMode(echoPin1, INPUT);
pinMode(trigPin2, OUTPUT);
pinMode(echoPin2, INPUT);
//pinMode(valve,OUTPUT);
//pinMode(valve1,OUTPUT);
//digitalWrite(valve,LOW);
//digitalWrite(valve1,HIGH);
pinMode(10,OUTPUT);
pinMode(11,OUTPUT);
digitalWrite(10,HIGH);// CLOSE 2
digitalWrite(11,HIGH);// CLOSE 1
}

void loop() {

if(flag == 0 && x==0 && y==0 && INDX == 0){
  digitalWrite(11,LOW);
}
SonarSensor(trigPin1, echoPin1);
one= distance;
SonarSensor(trigPin2, echoPin2);
two= distance;
Serial.print("Height(1) -");
Serial.print(one);
Serial.print(" -- ");
Serial.print("Height(2) -");
Serial.println(two);
if(abs(one-H1) <= 0.5 && flag == 0 && y == 0 && INDX == 0)
{//digitalWrite(valve,HIGH);
//digitalWrite(valve1,LOW);
  digitalWrite(10,LOW);
//10 is connected to 2nd relay, 2nd valve;\

//11 is connected to 1st relay , 1st valve;
```

```
    digitalWrite(11,HIGH);
    flag = 1;
    y = 1;
    Serial.println("**");
}
else if(abs(two-H2) <= 0.5 && flag == 1 && x == 0&& INDX == 0)
{//digitalWrite(valve,LOW);
//digitalWrite(valve1,HIGH);
    digitalWrite(10,HIGH);
//delay(1000);
    digitalWrite(11,LOW);
    flag = 0;
    x = 1;
    Serial.println("**");
}

else if(abs(one-H3) <= 0.5 && x == 1 && flag == 0 && INDX == 0)
{//digitalWrite(valve,HIGH);
//digitalWrite(valve1,LOW);
Serial.println("**");
    digitalWrite(10,LOW);
//10 is connected to 2nd relay, 2nd valve;\

//11 is connected to 1st relay , 1st valve;
    digitalWrite(11,HIGH);
    flag = 1;
    x = 0;
}

else if(flag == 1 && y == 1 && abs(two-H4) <= 0.5 && INDX == 0)
{//digitalWrite(valve,LOW);
//digitalWrite(valve1,HIGH);
Serial.println("**");
digitalWrite(10,HIGH);
//delay(1000);
    digitalWrite(11,HIGH);
    flag = 1;
    y = 0;
    INDX = 1;
    return;
}
}

void SonarSensor(int trigPin,int echoPin)
{
digitalWrite(trigPin, LOW);
delayMicroseconds(2);
digitalWrite(trigPin, HIGH);
```

```
delayMicroseconds(10);
digitalWrite(trigPin, LOW);
duration = pulseIn(echoPin, HIGH);
distance = (duration/2) / 29.1;

}
```