Assignment No:13

Code:

```
float cm=0;
float inches=0;
int LEDR=2;
int LEDB=3;
int LEDG=4;
long readultrasonicDistance (int triggerPin, int echoPin)
{
pinMode (triggerPin, OUTPUT); // clear the trigger
digitalWrite (triggerPin, LOW);
delay(5000);
// Sets the trigger pin to HIGH state for 10 microseconds
digitalWrite(triggerPin, HIGH);
delay(5000);
digitalWrite(triggerPin, LOW);
pinMode (echoPin, INPUT);
// Reads the echo pin, and returns the sound wave travel time
return pulseIn(echoPin,HIGH);
}
void setup()
{
pinMode(LEDR,OUTPUT);
pinMode(LEDB,OUTPUT);
pinMode(LEDG,OUTPUT);
Serial.begin(9600);
}
void loop()
{
  // measure the ping tine in cm
cm =0.01723 *readultrasonicDistance (6,5);
```

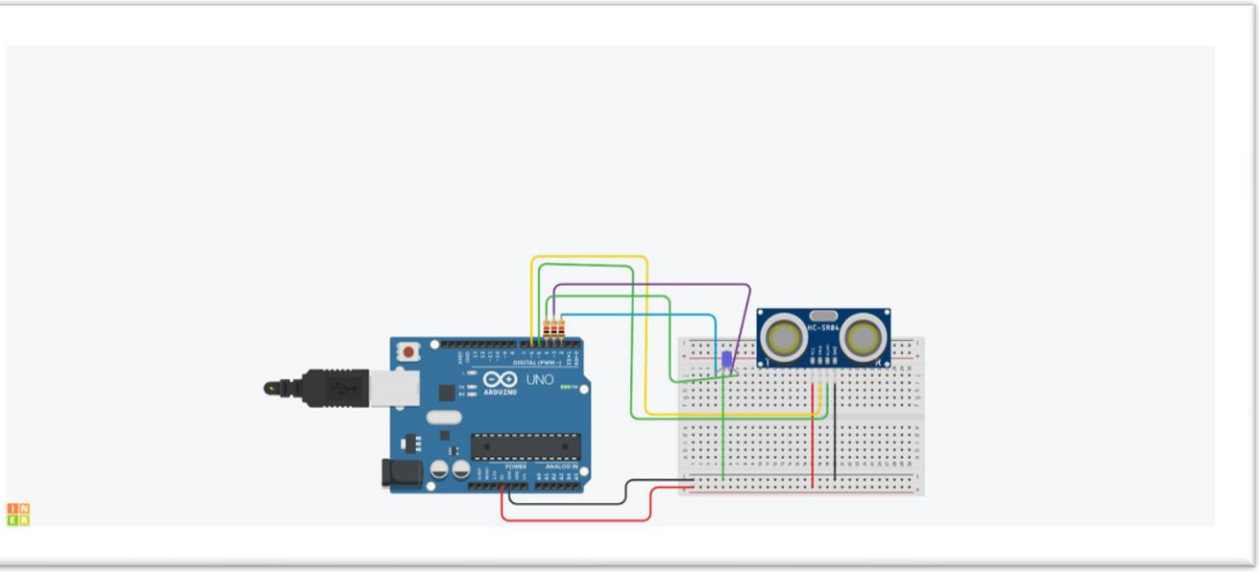
```
//convert to inches by dividing by 2.34
if(cm>=0 && cm<50)
{
  digitalWrite(LEDR,HIGH);
  Serial.print("LED= RED, ");
  delay(500);
}
else
{
digitalWrite(LEDR,LOW);
}
if(cm>=50 && cm<100)
{
  digitalWrite(LEDG,HIGH);
  Serial.print("LED= GREEN, ");
  delay(5000);
}
else
{
digitalWrite(LEDG,LOW);
}
if(cm>=100 && cm<150)
{
  digitalWrite(LEDB,HIGH);
  Serial.print("LED= BLUE, ");
  delay(5000);
}
else
{
digitalWrite(LEDB,LOW);
}
if(cm>=150 && cm<200)
```

```
{
  digitalWrite(LEDR,HIGH);
  digitalWrite(LEDB,HIGH);
  digitalWrite(LEDG,HIGH);
  Serial.print("LED= WHITE, ");
  delay(5000);
}
else
{
digitalWrite(LEDR,LOW);
digitalWrite(LEDG,LOW);
digitalWrite(LEDB,LOW);
}
if(cm>=200 && cm<250)
{
  digitalWrite(LEDB,HIGH);
  digitalWrite(LEDG,HIGH);
  Serial.print("LED= WHITE, ");
  delay(5000);
}
else
{
digitalWrite(LEDG,LOW);
digitalWrite(LEDB,LOW);
}
if(cm>=250 && cm<300)
{
  digitalWrite(LEDR,HIGH);
  digitalWrite(LEDG,HIGH);
  Serial.print("LED= WHITE, ");
  delay(5000);
}
```

```
else
{
digitalWrite(LEDR,LOW);
digitalWrite(LEDG,LOW);
}
if(cm>=300 && cm<325)
{
  digitalWrite(LEDR,HIGH);
  digitalWrite(LEDB,HIGH);
  Serial.print("LED= WHITE, ");
  delay(5000);
}
else
{
digitalWrite(LEDR,LOW);
digitalWrite(LEDG,LOW);
}
inches= (cm/2.54);
Serial.print (cm);
Serial.print(" CM, ");
Serial.print (inches);
Serial.print(" IN ");
Serial.println();
delay(5000); // wait for 100 millisecond(s)
}
```

Output:

```
LED= WHITE, 176.35 CM, 69.43 IN
LED= WHITE, 322.06 CM, 126.80 IN
LED= WHITE, 220.32 CM, 86.74 IN
LED= GREEN, 94.54 CM, 37.22 IN
LED= WHITE, 200.59 CM, 78.97 IN
```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