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ASSIGNMENT -1

1)
```
void setup()
{
 Serial.begin(9600);
}
void loop(){
 int sensorValue = analogRead(A0);
 Serial.println(sensorValue);
 delay(1);
}
```

2)
```
void setup()
{
pinMode(LED_BULLETIN, OUTPUT);
}
void loop()
{
digitalWrite(LED_BULLETIN, HIGH);
delay(1000);
digitalWrite(LED_BULLETIN, LOW);
delay(1000);
}
```

3) Arduino Uno, DTH11 Temperature / Humidity, Jumper Wires, Breadboards, Cable (USB 2.0)

Code:

```
# include <dht.h>
# define dht_apin A0
 void setup()
```

```
{
  Serial.begin(9600);
  delay(500);
  Serial.println("DHT11 Humidity & Temperature Sensor
      \n\n");
  delay(1000);
}
DHT.read11(dht_apin);
Serial.print("Current humidity =");
Serial.print(DHT.humidity);
Serial.print("%  ");
Serial.print("temperature = ");
Serial.print(DHT.temperature);
Serial.print("°C");
delay(5000);
}
```

4) To setup an ultrasonic sensor with an Arduino, you will need the following components. (2
- Arduino board (e.g. Arduino Uno, Arduino Nano)
- Ultrasonic sensor
- Jumper wires
- Breadboard

Once you have these components, here's how you can connect them:

1) Connect the VCC pin of the ultrasonic sensor module to the 5V pin on the Arduino.
2) Connect the GND pin of the ultrasonic sensor module to the GND pin on the Arduino.

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3) connect the Trig Pin of the Ultrasonic sensor module to any digital pin on the Arduino (e.g. pin 7)
4) Connect the Echo pin of the Ultrasonic sensor module to any digital pin on the Arduino (e.g. pin 6)
If you are using a breadboard, use jumper wires to make the connections between the components. If not, you can directly connect them using jumper wires.

5) i- IEEE 802.11 - WLAN / Wi-Fi
Wireless Lan (WLAN, also Wifi) is a set of low tier, terrestrial, network technologies for data communic-ation. The WLAN standards operates on the 2.4G and 5GHz Industrial, Science and Medical (ISM) frequency bands. Its specified by the IEEE 802.11 standard and it comes in many different variations like IEEE 802.11 a/b/g/n. The applicati of WLAN has been most visible in the consumer market where most portable computers suppor at least one of the variables.

ii- IEEE 802.15.1 - Bluetooth
The IEEE 802.15.1 standard is the basis of the Bluetooth wireless communication technology Bluetooth is a low tier, ad hoc, terrestrial, wireless standard for short range communicat It is designed for small and low cost devices.

with lower power consumption. The technology is designed for small devices: Class 1, Class 2, and Class 3 where range is 100 m, 10 m and 1 m respectively. Wireless LAN operates in the same 2.4 GHz frequency band as Bluetooth, but the two technologies use different signaling methods which should prevent interference.

iii - IEEE 802.15.4 - ZigBee

ZigBee is a lower-tier, ad hoc, terrestrial, wireless, standard in some ways similar to Bluetooth. The IEEE 802.15.4 standard is commonly known as ZigBee but ZigBee has some features in addition to those of 802.15.4. It operates in the 868 MHz, 915 MHz, and 2.4 GHz ISM bands.

Standard	Ad hoc	Infrastructured
802.11 a/b/g/h	Yes	Yes
802.15.1	Yes	No
802.15.4	Yes	No.

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