Smart Everything:

Welcome to the IOT

INTRODUCTION:-

- ✓ What is IOT?
  Basically, IOT (Internet Of Things) is a network in which all physical objects are connected to the internet through network devices or routers and exchange data.
- ✓ IOT allows objects to be controlled remotely across existing network infrastructure.
- ✓ IOT is a very good and intelligent technique which "reduces human effort" as well as easy access to physical devices.
- ✓ "Things" in IOT sense, is the mixture of hardware, software, data, and services.
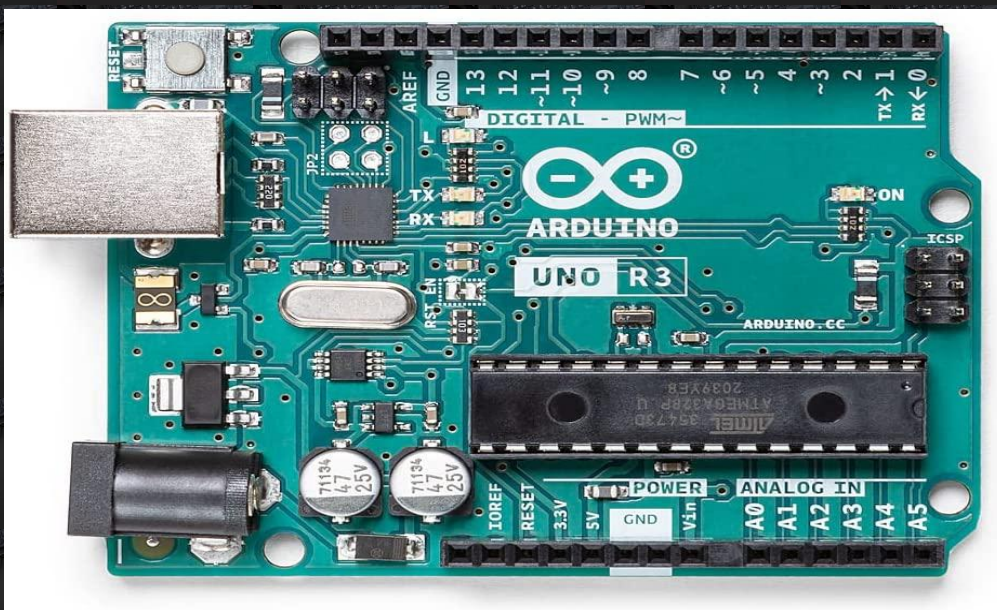
✓ HISTORY:-

The thought of Internet Of Things first became popular in 1999.

British entrepreneur "**Kevin Ashton**" invented IOT while working at Auto-ID labs.

Barcode scanner, QR scanner, and digital watermarking are the various devices which are working on IOT in the present scenario.

Electronic devices used in IOT:-
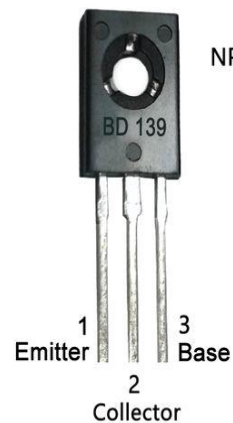
Transmitter for Ultrasonic Waves

Vcc — Vcc
Input (Trig) — Trig
Output (Echo) — Echo
Gnd — Gnd

HC-SR04

Receiver for Ultrasonic Waves

BD139 Transistor Pinout

TO - 126 Package

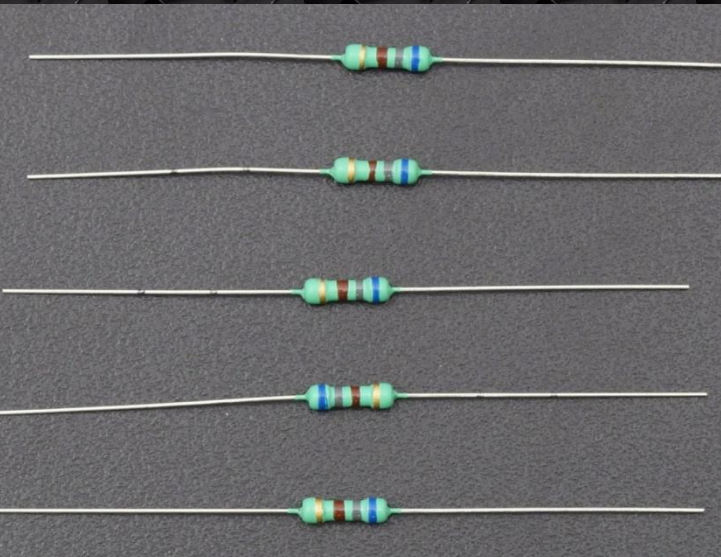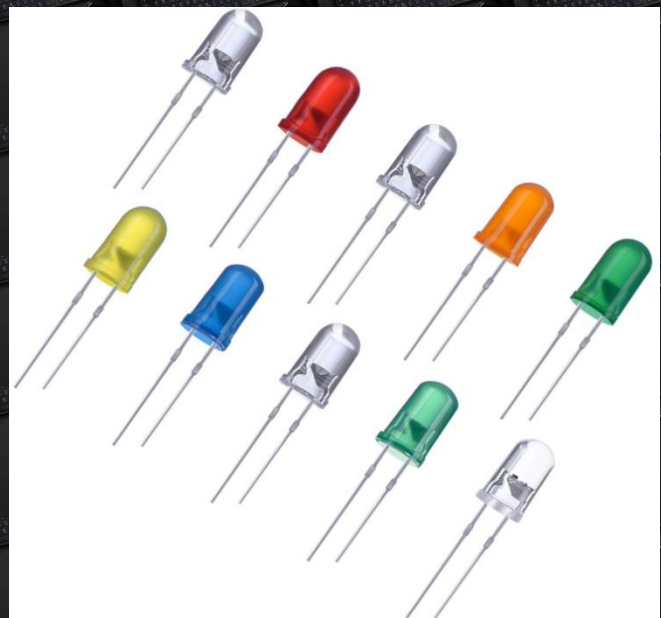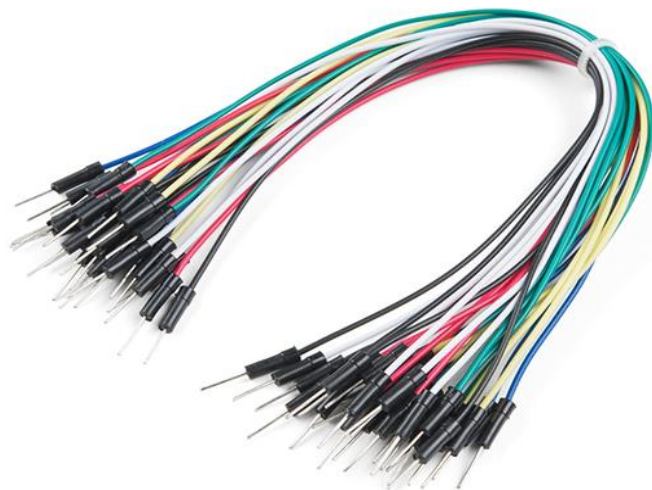NPN

BD 139

1 Emitter
2 Collector
3 Base

2 | Collector
3 Base
1 | Emitter
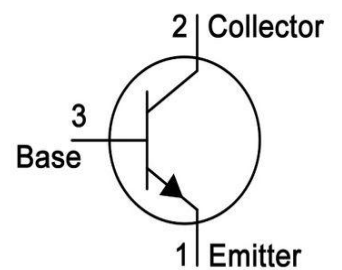
www.componentsinfo.com
Electronics Components Uses, Features, Pinouts, Equivalents, Applications & More...

Different Types of Sensors

Thermistor (Temperature Sensor)

IR Sensor (Transmissive Type)

IR Sensor (Reflective Type)

Ultrasonic Sensor

Gyroscope Sensor

Accelerometer Sensor

Rain Sensor

Soil Moisture Sensor

Phototransistor (Light Sensor)

Water Flow Sensor

Heartbeat Sensor

Alcohol Sensor

Color Sensor

PIR Sensor

Gas Sensor

Smoke Sensor

LM35 (Temperature Sensor)

IR Receiver

LDR (Light Sensor)

www.electricaltechnology.org

Humidity Sensor

Flex Sensor

Touch Sensor

Solar Cell Light Sensor

Metal Dedector

Real Time Clock Sensor

Vibration Sensor

FEW APPLICATIONS OF IOT:-

1. Smart home application:-
   a. Home safety and security (burglar alarm)
   b. Voice assistants for disabled people (alexa)
   c. Air and water quality monitoring
   d. Gardening management (moisture content of soil)
   e. Temperature control
   f. Energy management etc...
   g. Fire alert
2. Smart cities:-
   a. Traffic management (helmet detection)
   b. Water management (ph of water)
   c. Waste management
   d. Smart street lights
   e. Public safety
   f. Emergency response
3. Internet of medical things(IoMT)
   a. Remote patient monitoring
   b. Early detection of disease(cancer cells)

    c. Heart rate, respiration rate, body temperature

    d. E-Token management system

    e. Walking sticks and the headset connected to Bluetooth.(screen reading software)

4. Agriculture:-

    a. Soil fertility

    b. Ph of soil

    c. Livestock health

    d. Drones for field monitoring

    e. Crop yield analysis

5. Defence:-

    a. Identifying the enemy (drones)

    b. Monitoring soldier's health

    c. Cyber security

In the world of IoT, even the cows will be connected and monitored. Sensors are implanted in the ears of cattle. This allows farmers to monitor cows' health and track their movements, ensuring a healthier, more plentiful supply of

Thank You!