# **Things Required:**

1. Arduino Uno
2. L239 Motor driver
3. Flame Sensor
4. Bo motor(4)
5. Wheels(4)
6. Servo
7. Battery
8. Jumper(8-10)
9. Mini Water pump
10. Mini breadboard
11. Container
12. Wooden Board
13. Pipe

# **Explaining Each component that have been used in project:**

1. Arduino (Arduino Uno)

The Arduino Uno is an open-source microcontroller board based on the Microchip ATmega328P microcontroller and developed by Arduino.cc and initially released in 2010. It is use to build low cost scientific instruments, to prove chemistry and physics principles, or to get started with programming and robotics.

**Fig: Arduino Uno**

There are different type of Arduino found in market nowadays like as:

Arduino UNO, Arduino NANO, Arduino Leonardo, Arduino Micro, Arduino NANO Every, Arduino NANO 33 BLE ,Arduino MKR Zero etc. Among them Arduino Uno is widely use nowadays which is also used in our project.

Arduino works: A input is taken through the sensors then a code has been written in C++ with an addition of special methods and functions to do some task then output is come through the Dc motor, LCD display, Speaker, LED indicator light, Speaker etc.

1. Motor Driver (L239 Motor driver)

Motor driver is used to control motion of a motor and its direction by feeding current accordingly. Output of a motor driver is in digital form so it uses PWM (Pulse Width Modulation) to control speed of a motor. Motor Driver are basically current amplifiers followed by input signals.

1. Sensor (Flame Sensor)

Sensor is a device that detects the change in the environment and responds to some output on the other system. There are different kind of sensor that can be connected through a Arduino like as : Humidity sensor, Temperature sensor, Touch sensor and Light senor.

1. Motor (Bo motor)

The word "**motor**" refers to any power unit that generates motion, that is a "prime mover", while "electric **motor**" refers to a "prime mover using electricity. There are two type of motor AC motor ad DC motor.

This BO (Battery Operated) Motor is lightweight DC geared motor which gives good torque and rpm at lower voltages.

1. Bread Board

A breadboard (sometimes called a plug block) is used for building temporary circuits. It is useful to designers because it allows components to be removed and replaced easily. It is useful to the person who wants to build a circuit to demonstrate its action, then to reuse the components in another circuit. There are 2 type of bread board they are: solder bread board and solder less bread board.

Some other material that have been used in this project are:

* Servo: Servo Motor or “servos”, as they are known, are electronic devices and rotary or linear actuators that rotate and push parts of a machine with precision.
* Wheels: A circular frame material that rotate it-self which makes vehicle move.
* Battery: A battery is a device that converts chemical energy contained within its active materials directly into electric energy by means of an electrochemical oxidation-reduction (redox) reaction.
* Jumper wire: Jumper cables are used to connect different port with each-other.
* Mini water pump: It is used to pump the water.
* Container: It is used to store the water.
* Wooden board: It is used to make a frame of truck where all the component are kept.
* Pipe: It is used to flow the water.