Arduino,Nodemcu and Raspberry

Arduino

Arduino and Nodemcu are basically development boards.It is actually made to learn how to program an MCU.We can tell the board what to do by sending a set of instructions to the microcontroller on the board.

Unlike a general purpose system such as PC a development board consist of little or no hardware for dedicates user interface.It has got only a memory to accept and run a user supplied program.

Program:C++,Embedded C.

IDE:ESPlorer,Arduino

Features:Inexpensive,simple,cheaper and opensource.

Applications:Toys,control Led brightness using PWM,Light sensor,Temperature sensor to monitor temperature of the room.

Example:remote controlled car.

Nodemcu

NodeMCU is an open source firmware for which open source prototyping board designs are available. The name "NodeMCU" combines "node" and "MCU" (micro-controller unit). The term "NodeMCU" strictly speaking refers to the firmware rather than the associated development kits.

Extra feature:Wifi connectivity

All other functions same as Arduino.

Raspberry Pi

It is a low cost ,small size computer in which a monitor,keyboard and mouse can be connected.Its capable of doing everything a normal PC can do.From browsing the internet and playing high definition video,to making spreadsheets,word processing and playing games.

Applications:Home automation,Machine learning,games,website.

Example:remote controlled car with live streaming using webcam

Coding etiquette

1. Documentation
2. Use descriptive variable names
3. Use functions
4. Short handing
5. Convention(camel phrase)
6. Indenting

Version control

1. GitHub
2. Bit bucket

Software used for version control operations is sourcetree

PCB design software used:**EAGLE**