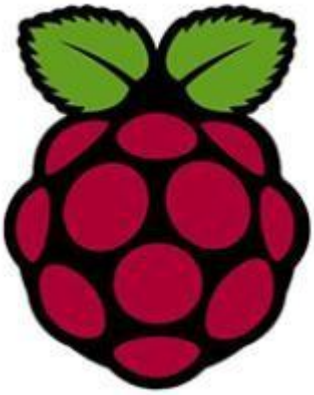
Lesson 1 Raspberry Pi Introduction

The Raspberry Pi is a series of small single-board computers developed in the United Kingdom by the Raspberry Pi Foundation. Early on, the Raspberry Pi project leaned towards the promotion of teaching basic computer science in schools and in developing countries. Later, the original model became far more popular than anticipated, selling outside its target market for uses such as robotics. It is now widely used in many areas, such as for weather monitoring, because of its low cost and high portability.



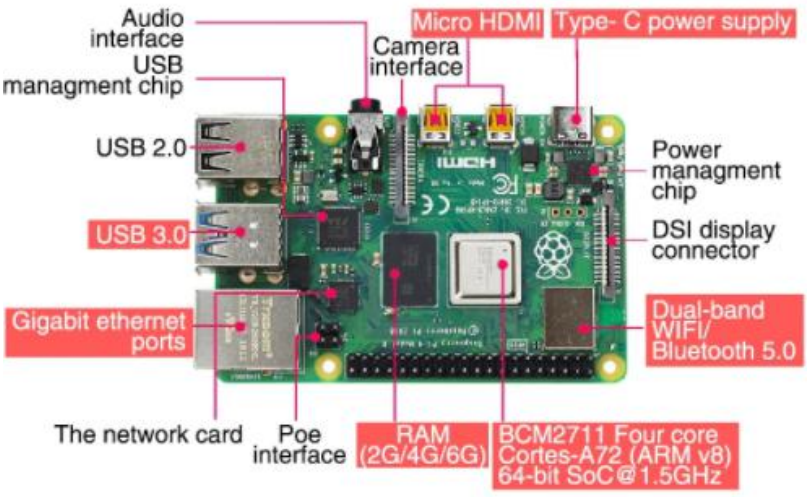
1. Raspberry Pi Version

Several generations of Raspberry Pis have been released.

No.	Version	Instruction
1	A	256MB version without wired network interface.
2	A+	Change 4 USB port to only 1.

3	B	512MBversion with 100M wired network interface.
4	B+	Compared with B, it has lower power consumption, more pins and USB ports. USE Micro SD socket.
5	2B	The performance is six times of B+. 1GB memory and 4 USB2.0 ports.
6	3B	802.11 b/g/n wireless network card, Bluetooth 4.1 adapter, equipped with 64-bit quad-core processor
7	3B+	Add 5GHz dual-band Wifi, USB Gigabit Ethernet, Bluetooth 4.2 adapter, and processor upgrade.
8	4B	Processor upgrade, Bluetooth 5.0 adapter, upgrade two USB2.0 interfaces to USB3.0, support 4K, use Type C power supply interface, support 4K dual display, true Gigabit Ethernet (network port reachable).

2. Raspberry Pi Structure and Feature



Features:

1) Has powerful computing performance;

2) Open source hardware and ease of use;

3) Compared with Microsoft system, the tool is free;

4) It can be used as a low-cost development platform and a troubleshooting tool;

5) All applications can be opened without internet access;

6) Extend the basic functions of the credit-card size computer into a comprehensive robot.

3. Raspberry Pi Application

1) Web server

The Raspberry Pi can stay around the clock because it only requires very little power.

2) Laptop

The Raspberry Pi can be used as the "brain" of a laptop, just need to equip it with a computer screen.

3) Home theater set-top box

There are many free operating systems that can turn the Raspberry Pi into a set-top box that can run your favorite content.

4) Game simulator

Use the free RetroPie OS on any Raspberry Pi to play Game Boy, arcade, SNES and other games.

5) Monitor

With simple steps and an external camera, a simple monitoring system can be built.

6) Wi-Fi extender

If you cannot get a good Wi-Fi signal in some rooms of your home, your Raspberry Pi can help by turning into an extender. On the Raspberry Pi’s built-in Wi-Fi, only a USB Wi-Fi adapter is required to repeat the signal.

7) Music streamer and multi-room audio

Using the right software and some Raspberry Pi, you can create an inexpensive sound system to play music in different locations in your home.

As mentioned above, Raspberry Pi is not only a small developer, but also a "caring companion" in life.