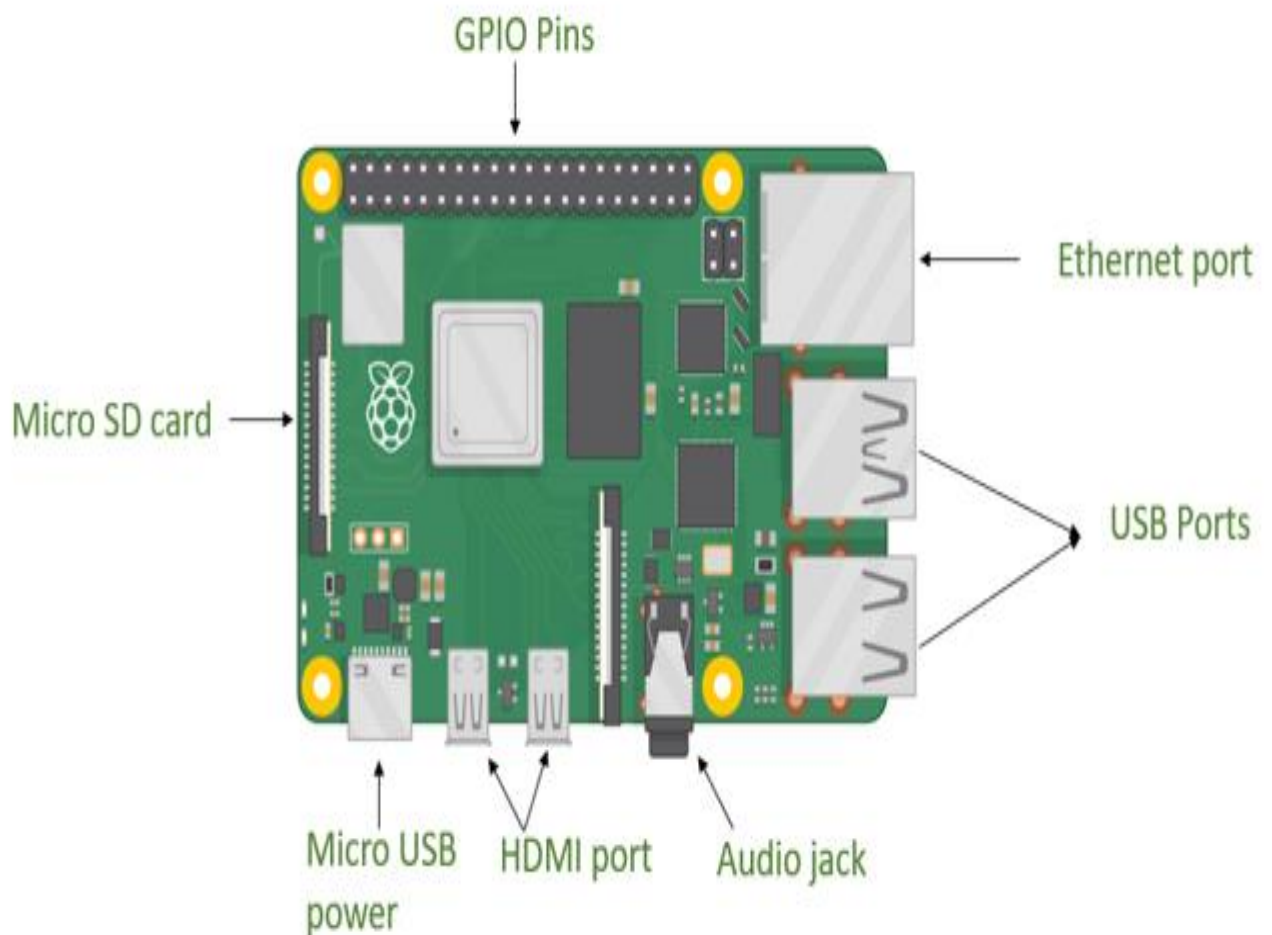


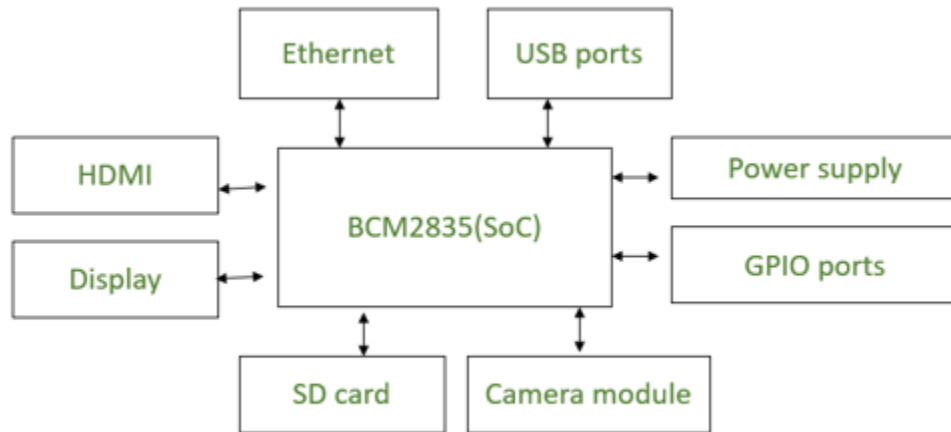
Raspberry Pi Architecture

Raspberry Pi is a small single-board computer (SBC). It is a credit card-sized computer that can be plugged into a monitor. It acts as a minicomputer by connecting the keyboard, mouse, and display. Raspberry Pi has an ARM processor and 512MB of RAM. The architecture of Raspberry Pi is discussed in this article.

The following diagram shows the architecture of Raspberry Pi:



The following diagram shows some main blocks of Raspberry Pi:



Raspberry Pi mainly consists of the following blocks:

- **Processor:** Raspberry Pi uses Broadcom BCM2835 system on chip which is an ARM processor and Video core Graphics Processing Unit (GPU). It is the heart of the Raspberry Pi which controls the operations of all the connected devices and handles all the required computations.
- **HDMI:** High Definition Multimedia Interface is used for transmitting video or digital audio data to a computer monitor or to digital TV. This HDMI port helps Raspberry Pi to connect its signals to any digital device such as a monitor digital TV or display through an HDMI cable.
- **GPIO ports:** General Purpose Input Output ports are available on Raspberry Pi which allows the user to interface various I/P devices.
- **Audio output:** An audio connector is available for connecting audio output devices such as headphones and speakers.
- **USB ports:** This is a common port available for various peripherals such as a mouse, keyboard, or any other I/P device. With the help of a USB port, the system can be expanded by connecting more peripherals.
- **SD card:** The SD card slot is available on Raspberry Pi. An SD card with an operating system installed is required for booting the device.
- **Ethernet:** The ethernet connector allows access to the wired network, it is available only on the model B of Raspberry Pi.
- **Power supply:** A micro USB power connector is available onto which a 5V power supply can be connected.

- **Camera module:** Camera Serial Interface (CSI) connects the Broadcom processor to the Pi camera.
- **Display:** Display Serial Interface (DSI) is used for connecting LCD to Raspberry Pi using 15 15-pin ribbon cables. DSI provides a high-resolution display interface that is specifically used for sending video data.