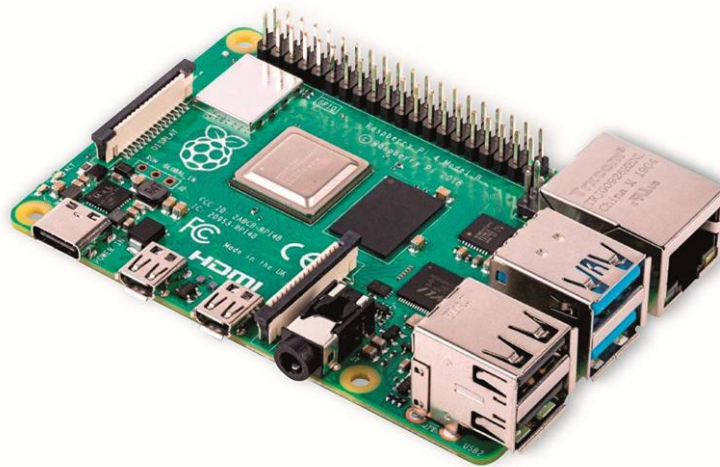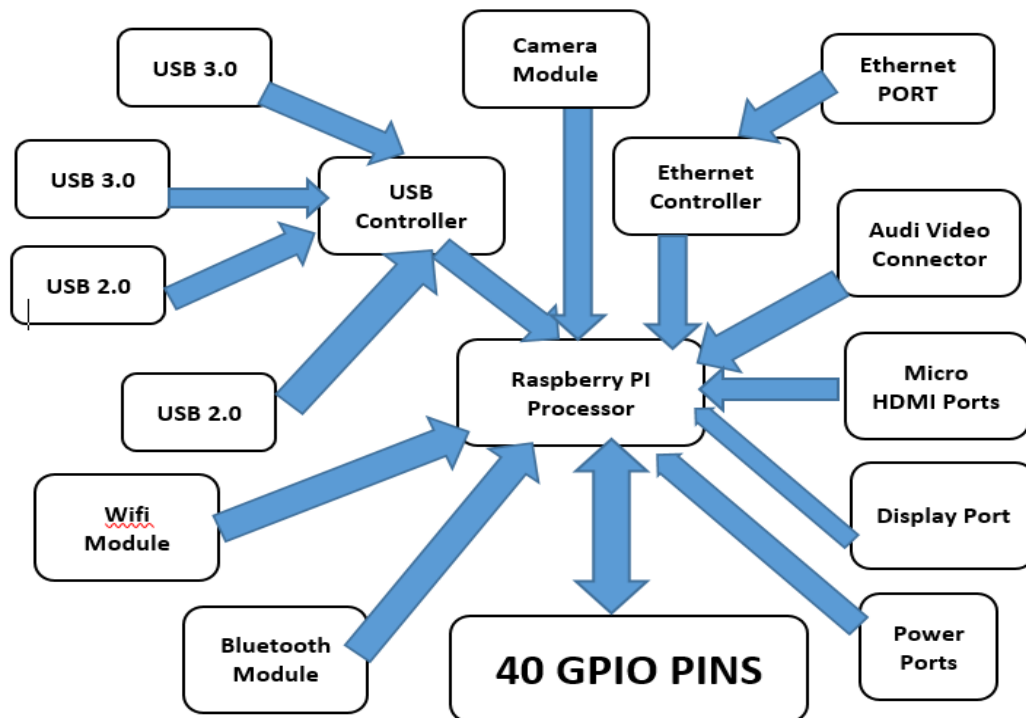# Raspberry PI

1. Ethernet Port: Network Facility (LAN)
2. 2 USB 3.0 Ports (used to connect input / output / storage device)
3. 2 USB 2.0 Ports (used to connect input / output / storage device)
4. Audio / Video Port: connect AV jack to support audio / video devices.
5. CSI Port: (Camera Serial Interface) It is used to interface serial camera with Raspberry PI
6. 2 Micro (Mini) HDMI Port: Used to connect Monitor and other HDMI supported device.
7. Type C Port: Used to power ON raspberry PI
8. DSI Port (Display Serial Interface): Used to connect display devices
9. 40 GPIO Pins: (General Purpose Input Output Pins) they are used to connect various input and output devices to PI where user can program the pins for automation.
10. Wifi module: to connect PI with Internet
11. Raspberry PI processor: To process data
12. RAM Controller: support RAM upto 4 GB
13. SD Card Slot: User can insert SD card and install RASPBIAN OS.

PIN Diagram of Raaspberry PI

	FUNCTION	PIN	PIN	FUNCTION	
3V3	3V3	1	2	5V	5V
GPIO2	SPI3 MOSI/SDA3	3	4	5V	5V
GPIO3	SPI3 SCLK/SCL3	5	6	GND	GND
GPIO4	SPI4 CE0 N/SDA 3	7	8	TXD1/SPI5 MOSI	GPIO14
GND	GND	9	10	RXD1/SPI5 SCLK	GPIO15
GPIO17		11	12	SPI6 CEO N	GPIO18
GPIO27	SPI6 CE1 N	13	14	GND	GND
GPIO22	SDA6	15	16	SCL6	GPIO23
3V3	3V3	17	18	SPI3 CE1 N	GPIO24
GPIO10	SDA5	19	20	GND	GND
GPIO9	RXD4/SCL4	21	22	SPI4 CE1 N	GPIO25
GPIO11	SCL5	23	24	SDA4/TXD4	GPIO8
GND	GND	25	26	SCL4/SPI4 SCLK	GPIO7
GPIO0	SPI3 CE0 N/TXD2/SDA6	27	28	SPI3 MISO/SCL6/RXD2	GPIO1
GPIO5	SPI4 MISO/RXD3/SCL3	29	30	GND	GND
GPIO6	SPI4 MOSI/SDA4	31	32	SDA5/SPI5 CEO N/TXD5	GPIO12
GPIO13	SPI5 MISO/RXD5/SCL5	33	34	GND	GND
GPIO19	SPI6 MISO	35	36	SPI1 CE2 N	GPIO16
GPIO26	SPI5 CE1 N	37	38	SPI6 MOSI	GPIO20
GND	GND	39	40	SPI6 SCLK	GPIO21
	I2C			Ground	
	UART			5V Power	
	SPI			3V3 Power	

USB 3.0

USB 3.0

USB 2.0

USB Controller

Camera Module

Ethernet PORT

Ethernet Controller

Audi Video Connector

Raspberry PI Processor

Micro HDMI Ports

USB 2.0

Wifi Module

Bluetooth Module

40 GPIO PINS

Display Port

Power Ports

Sr. No	Raspberry Pi	Arduino UNO
1.	Bluetooth Module is inbuilt	External Bluetooth Module can be used.
2.	Wifi module is inbuilt	External wifi module is required
3.	Ethernet support is there	There is no Ethernet support
4.	4 USB devices can be connected	No USB Support
5.	Audio / Video support is there	No Audio / Video support
6.	2 Micro HDMIs ports are there	HDMI is not supported.
7.	Camera can be connected internally	External camera module can be connected
8.	CSI and DSI ports are there	No CSI and DSI ports are present
9.	SD card can be attached	No SD card can be attached
10.	It works like a minicomputer	It works like general microcontroller.
11.	RAM module is present	RAM Module is not supported
12.	Reset button is not present	Internal Reset button is there
13.	5 UART devices are supported	1 UART device is supported
14.	4 I2C devices are supported	2 I2C devices are supported
15.	Multiple SPI devices can be supported	1 SPI device is supported
16.	Total 40 pins are there	Total 30 pins are there
17.	28 GPIO pins are present	20 GPIO pins are there
18.	8 ground pins are there	3 ground pins are there
19.	Two 5 V pins are there	Single 5 V pin
20.	Two 3.3 V pins are there	Single 3.3 V pin