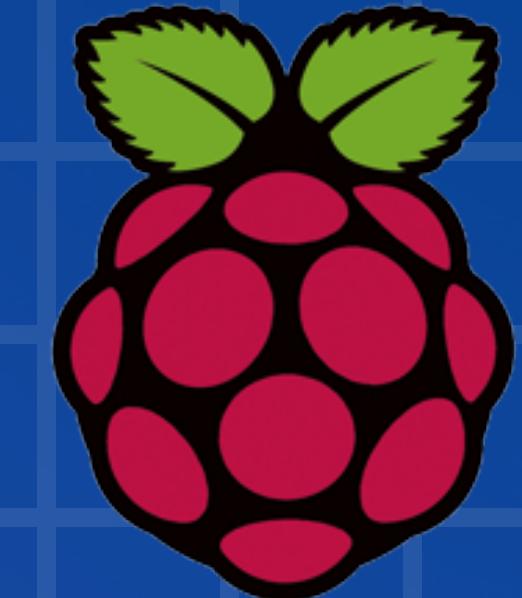


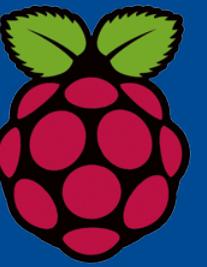
CONSUMO SUSTENTÁVEL DE ENERGIA EM
AMBIENTES ESCOLARES: INICIATIVAS FEMININAS

OFICINA RASPBERRY PI

Elen Antunes, Júlia Thompson e Luany Toniato



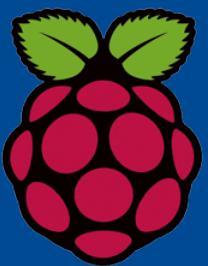
RASPBERRY PI



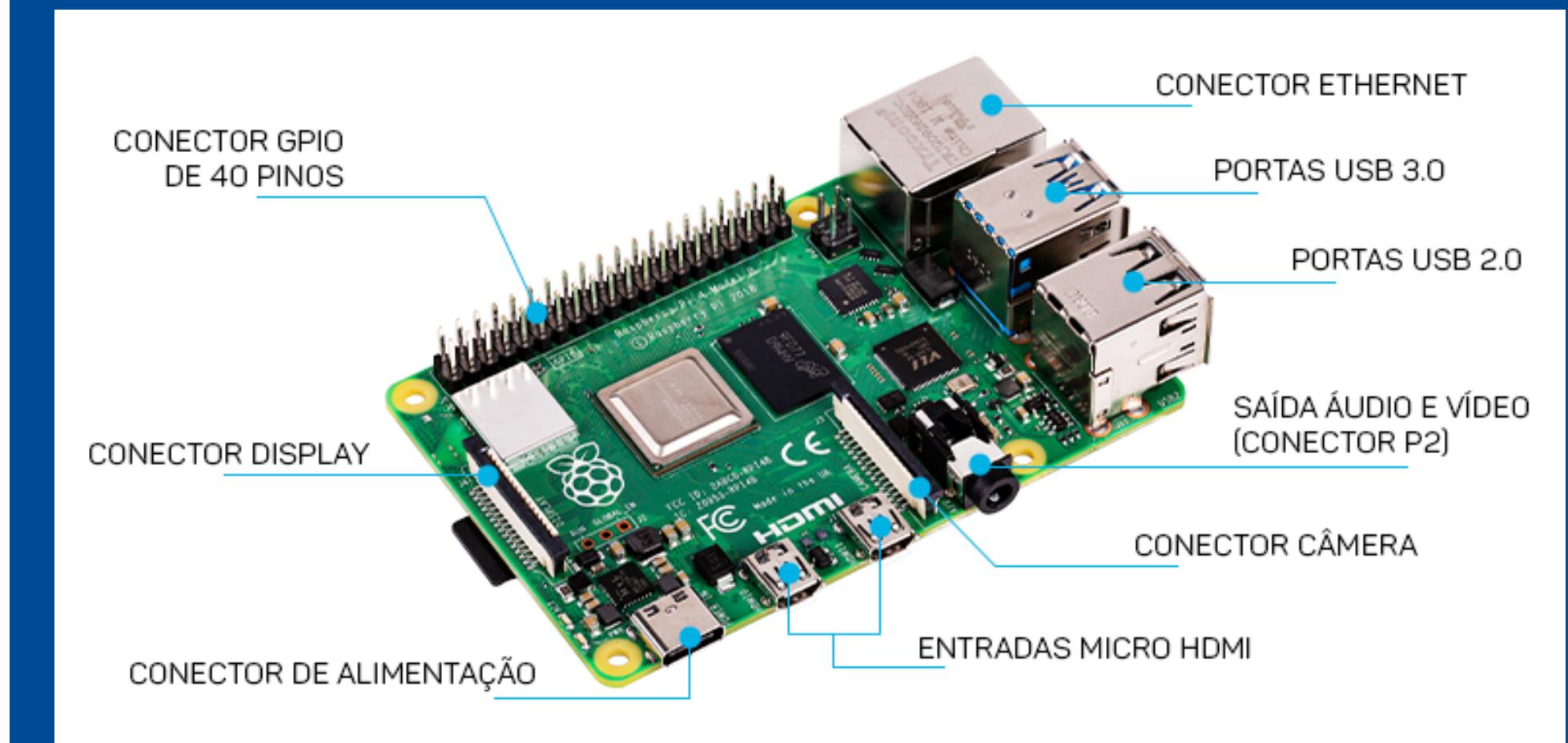
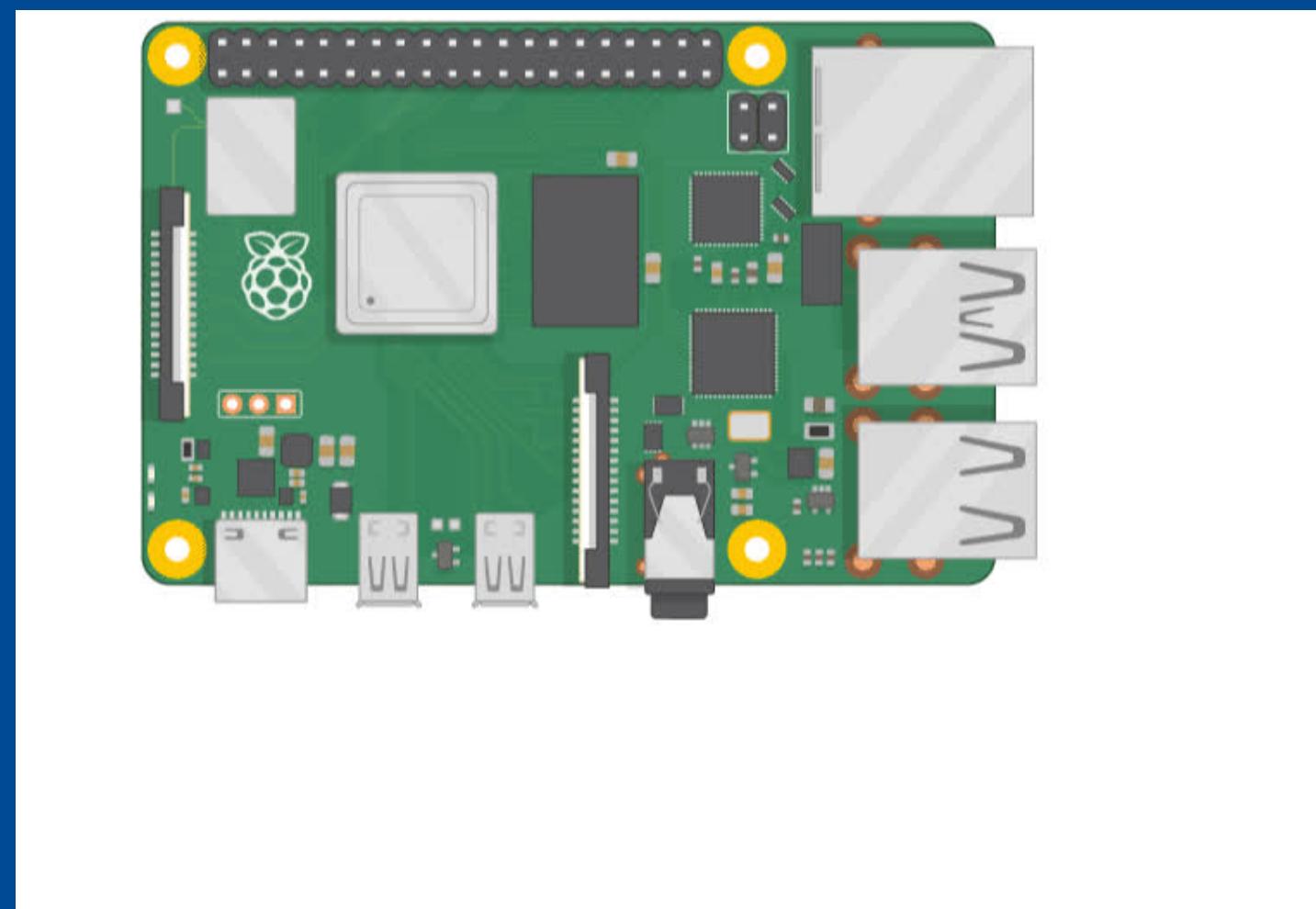
- O que é?

O Raspberry Pi é um micro-computador ou um computador de placa única completo, possui processador, memória RAM, placa de vídeo e entradas USB, HDMI, áudio e vídeo composto, para câmera e telas LCD e uma GPIO, com pinos I/O de múltiplo propósito, também presentes em outros computadores.

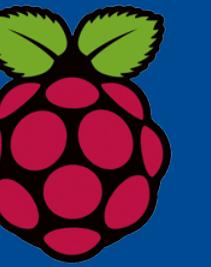
RASPBERRY PI



- O que é?



RASPBERRY PI

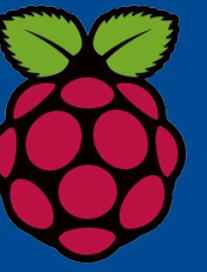


- Primeiros Passos

Precisamos de uma fonte para alimentar a Raspberry, para o nosso projeto vamos usar a Raspberry Pi 3 B+, portanto, iremos utilizar um modelo de fonte compatível com a nossa Raspberry.

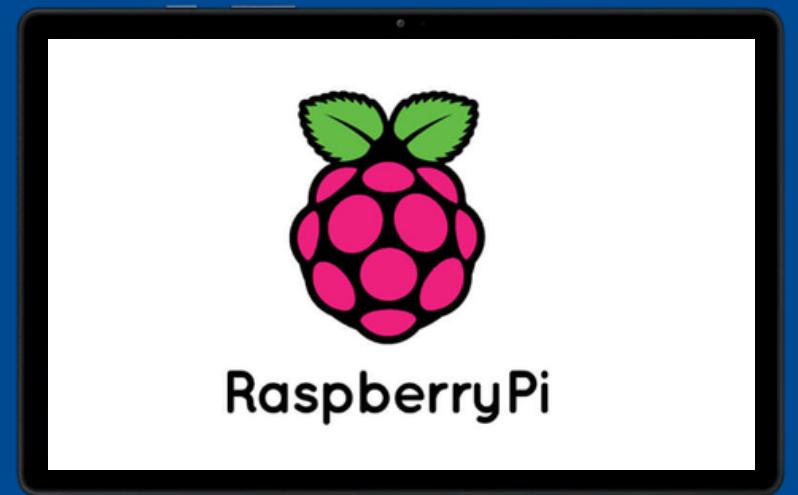
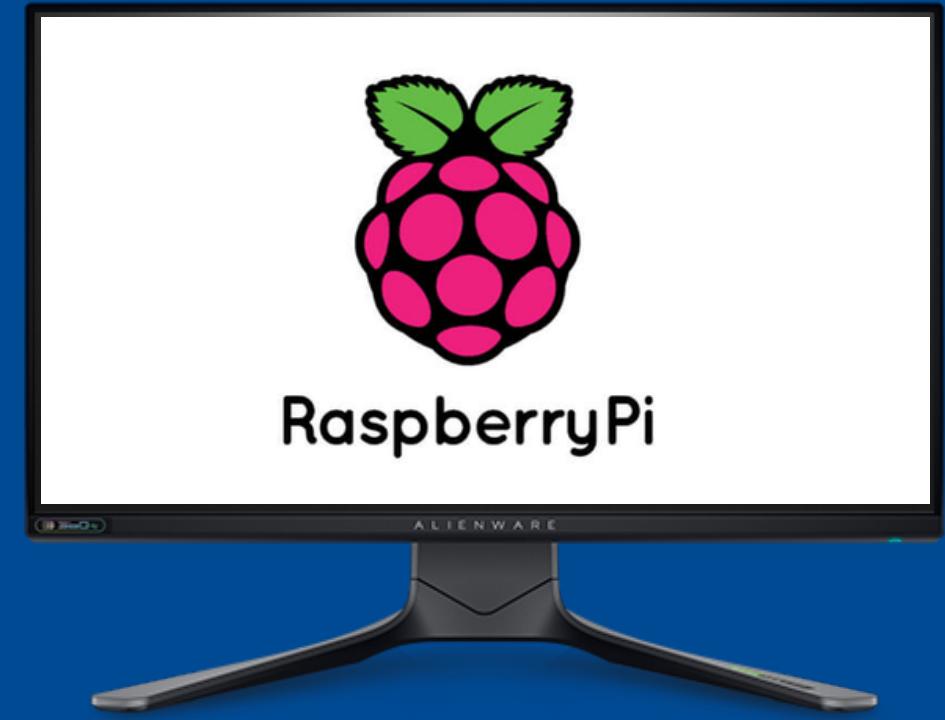
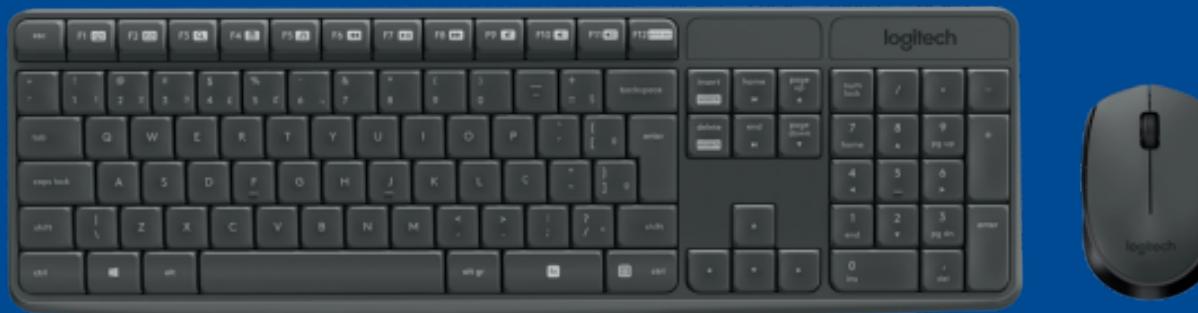


RASPBERRY PI

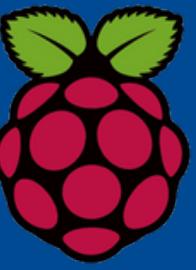


- Periféricos

Como todo computador, também vamos precisar de periféricos como mouse, teclado e um tipo de tela ou monitor para utilizar a Raspberry.

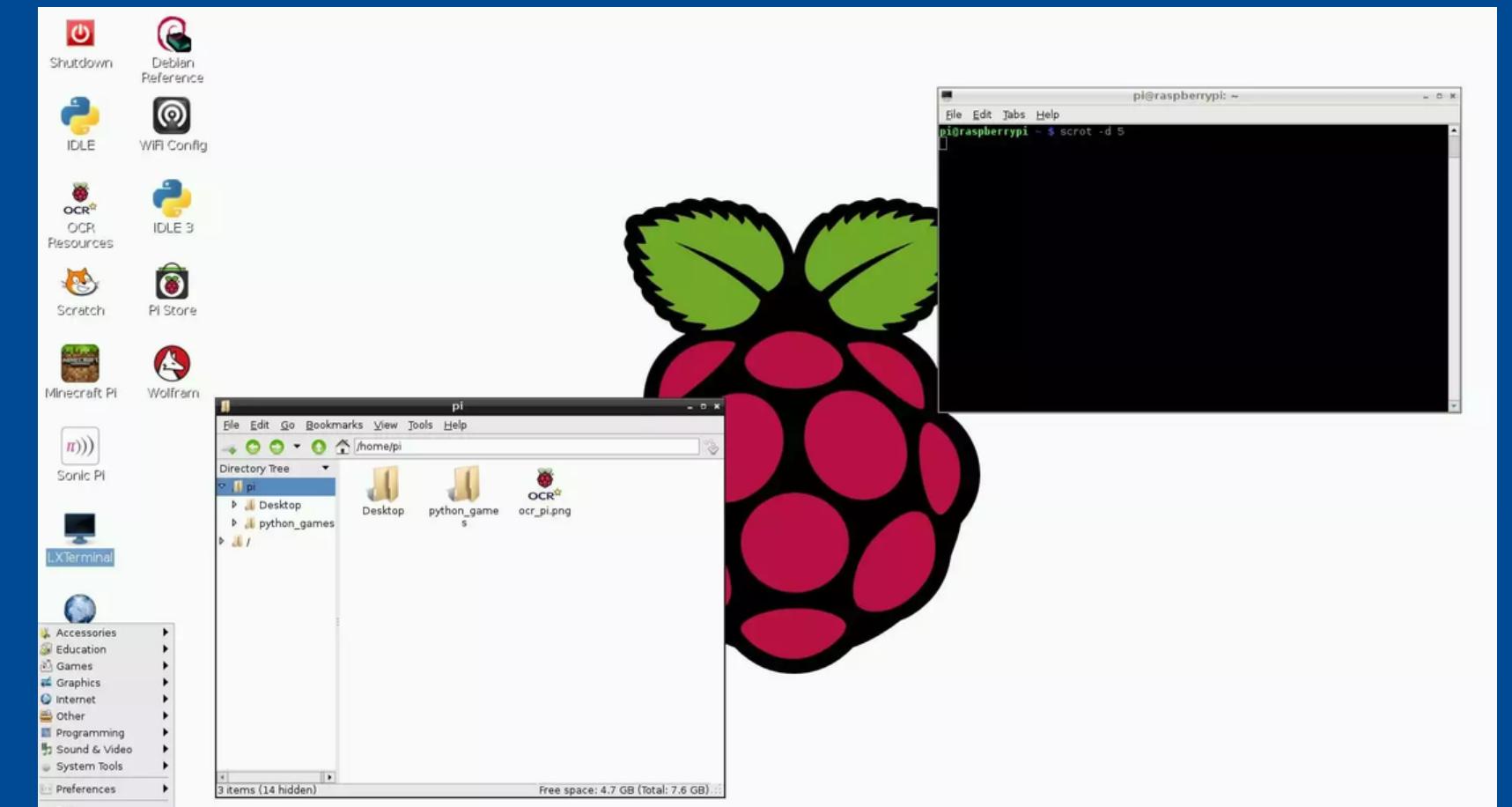


RASPBERRY PI

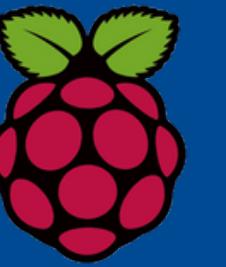


- Instalando o Software

Novamente, sabemos que todo computador precisa de um Sistema Operacional para ser utilizado, então vamos precisar instalar o software necessário para o uso da Raspberry.

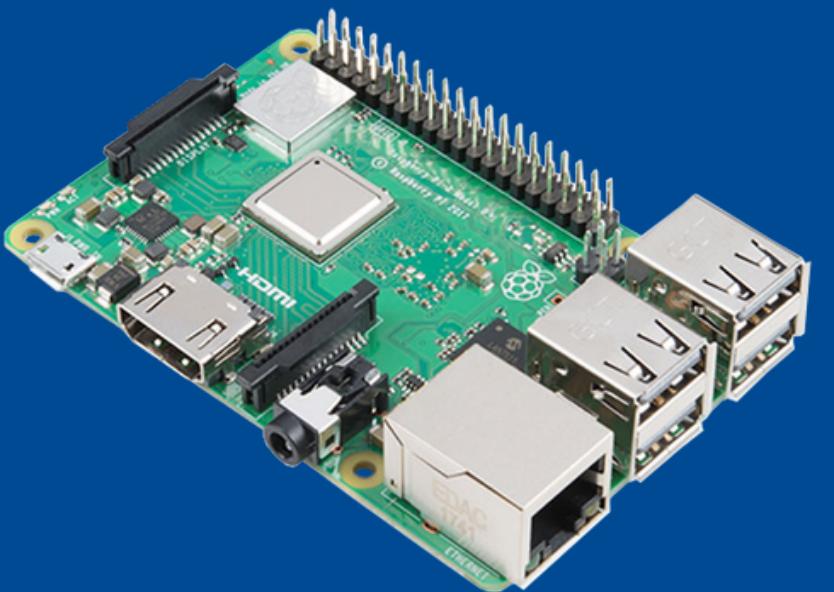


RASPBERRY PI

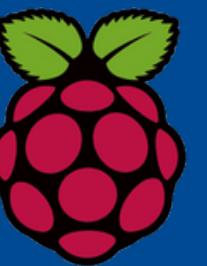


- Instalando o Software

Para essa instalação vamos precisar de um cartão microSD, que será o local de armazenamento do software, um computador para instalar o software desejado, passar para o cartão microSD e finalmente inserir o cartão na Raspberry.



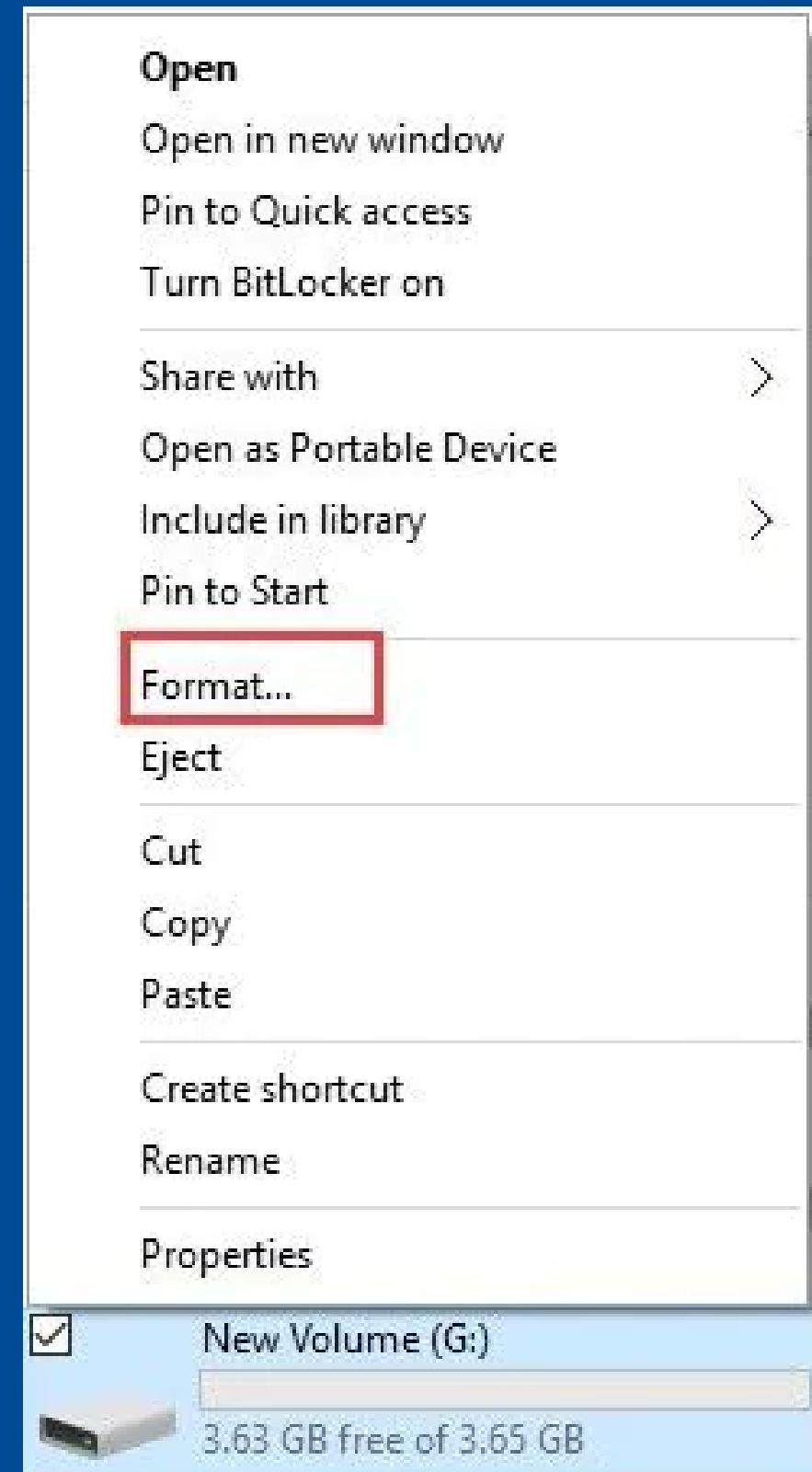
RASPBERRY PI



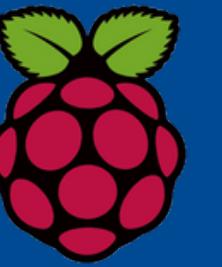
- Instalando o Software

Passo 1: Formatar o cartão microSD

Primeira etapa: Abra o Windows Explorer e clique com o botão direito no cartão SD. Selecione "Formatar"



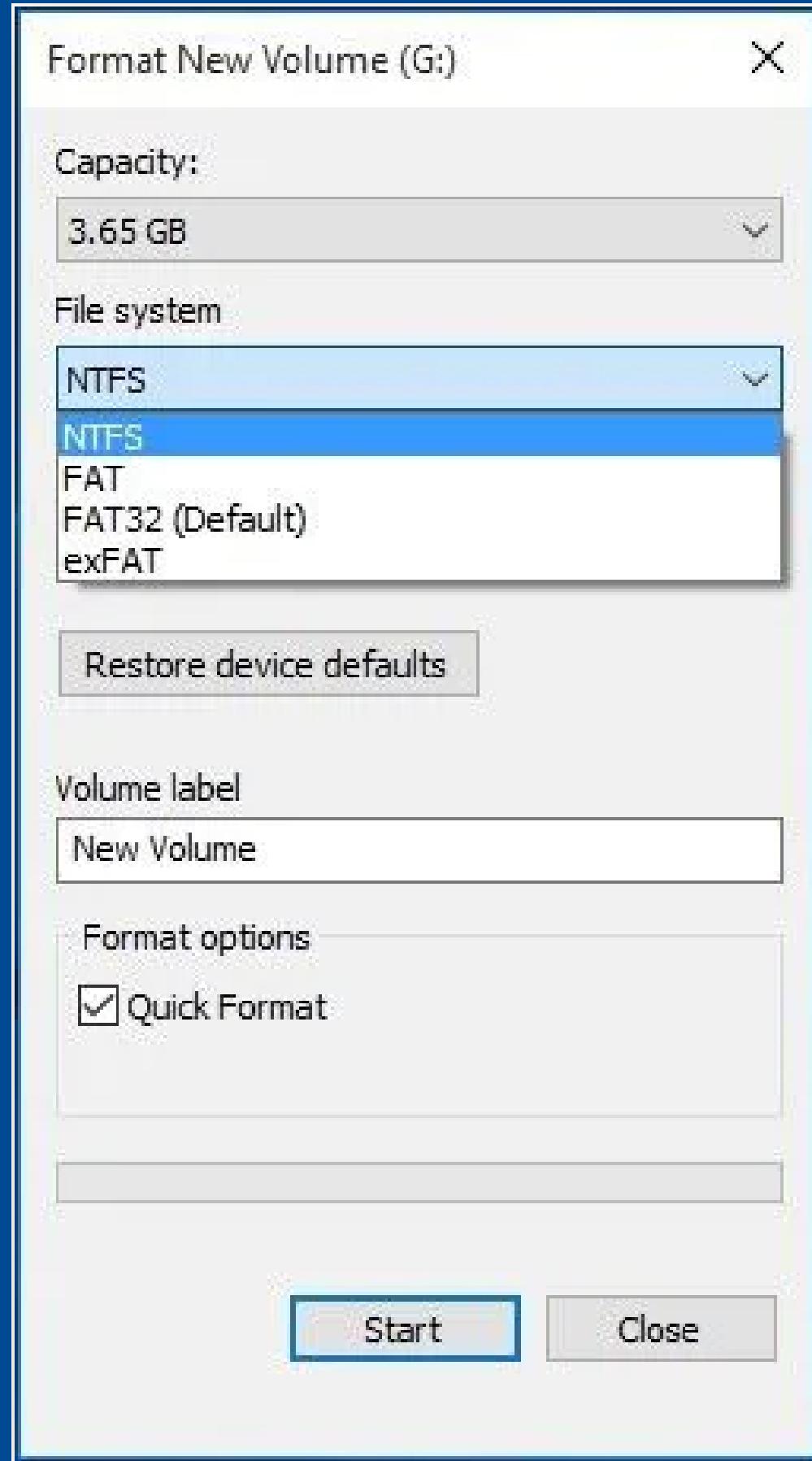
RASPBERRY PI



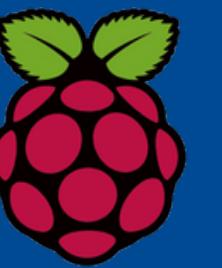
- Instalando o Software

Passo 1: Formatar o cartão microSD

Segunda etapa: Em "Sistema de Arquivos" escolha FAT32 como mostrado abaixo e clique em "INICIAR"



RASPBERRY PI



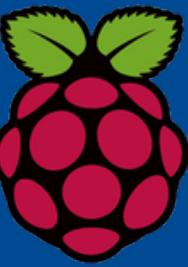
- Instalando o Software

Passo 1: Formatar o cartão microSD

Terceira etapa: Uma mensagem de aviso aparecerá solicitando a confirmação do processo de formatação. Clique em "OK" se estiver pronto e clique em "Cancelar" se não tiver feito backup dos arquivos e documentos principais.



RASPBERRY PI

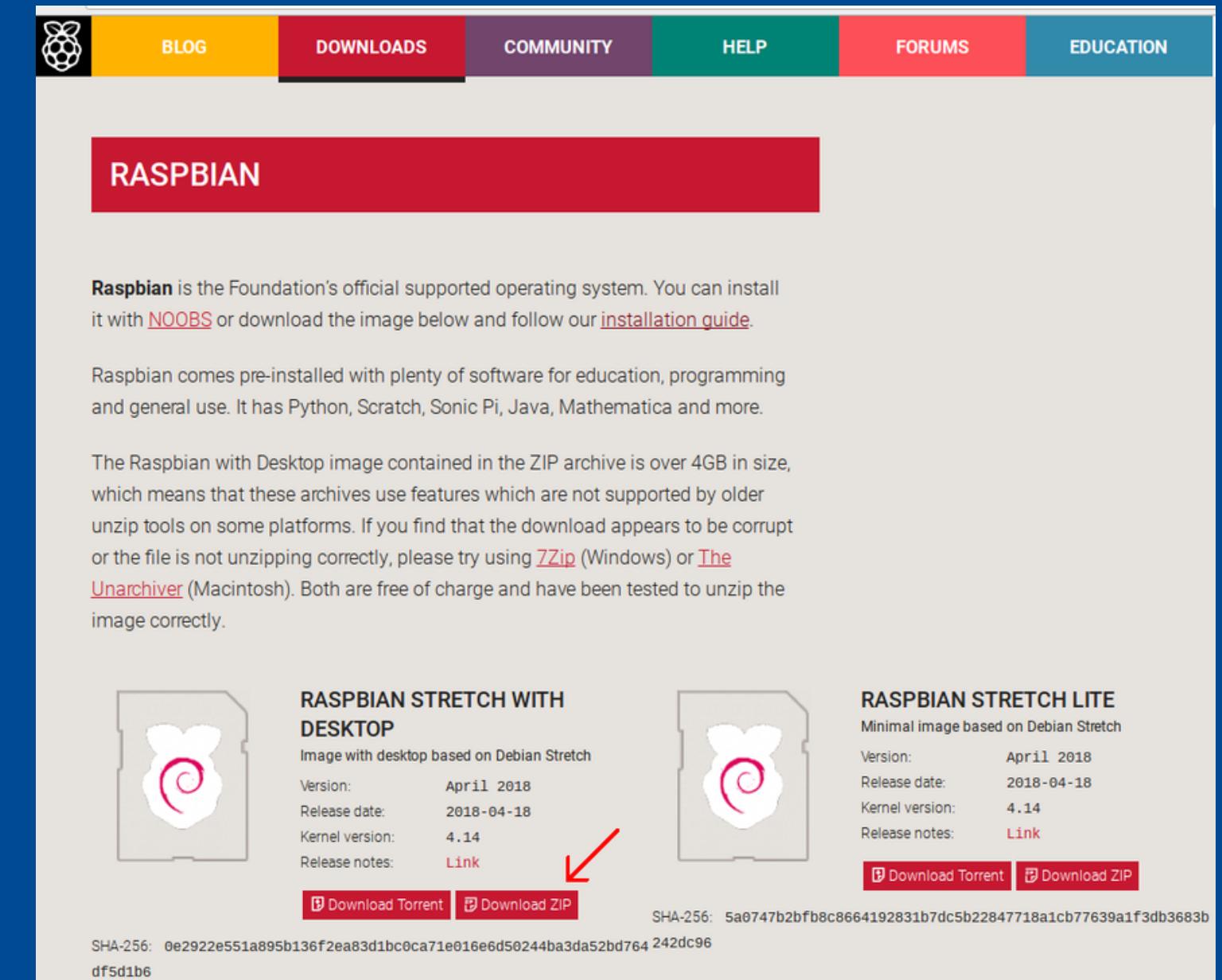


- Instalando o Software

- Passo 2: Instalar o Sistema Operacional Raspbian, que está disponível atualmente como Raspberry Pi OS disponibilizado no próprio site Raspberry Pi.

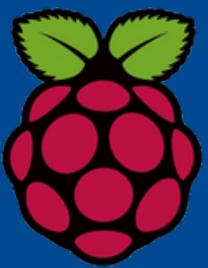
Link:

<https://www.raspberrypi.com/software/operating-systems/>



The screenshot shows the official Raspbian download page. At the top, there's a navigation bar with links for BLOG, DOWNLOADS (which is highlighted in red), COMMUNITY, HELP, FORUMS, and EDUCATION. Below the navigation bar, a red header bar says "RASPBIAN". The main content area starts with a paragraph about Raspbian being the Foundation's official supported operating system, mentioning NOOBS and the installation guide. It highlights that Raspbian comes pre-installed with various educational and programming tools like Python, Scratch, Sonic Pi, Java, Mathematica, etc. A note cautions users about using specific tools if their platform's unzip tools don't support them. Two download options are shown: "RASPBIAN STRETCH WITH DESKTOP" and "RASPBIAN STRETCH LITE". Each option includes a small image of a Raspberry Pi board with the Raspbian logo, version information (April 2018), release date (2018-04-18), kernel version (4.14), and release notes (a link). Below each option are "Download Torrent" and "Download ZIP" buttons. A red arrow points from the text "no zip tools" in the note above to the "Download ZIP" button for the desktop version. At the bottom, there's a SHA-256 checksum: 0e2922e551a895b136f2ea83d1bc0ca71e016e6d50244ba3da52bd764 242dc96 df5d1b6.

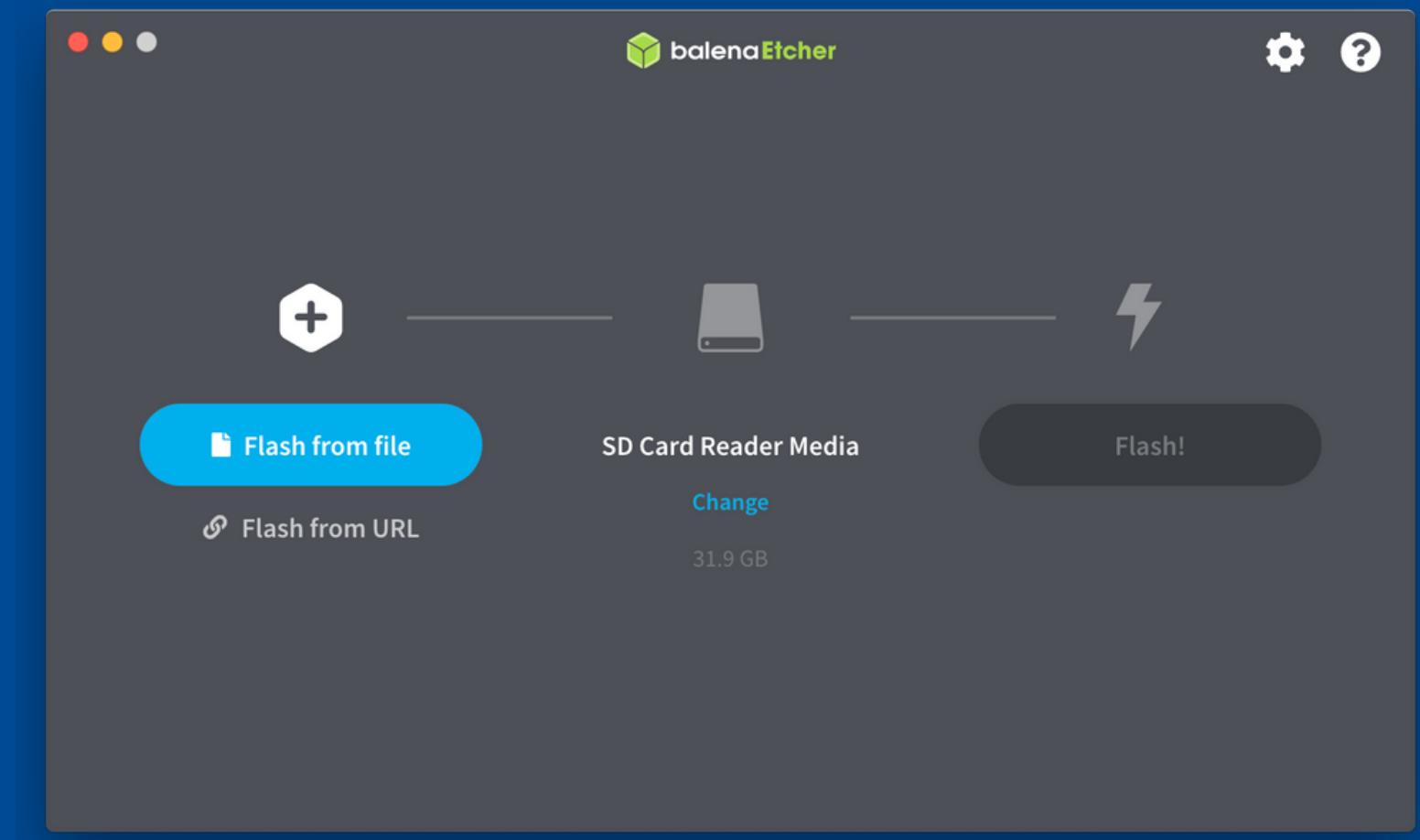
RASPBERRY PI



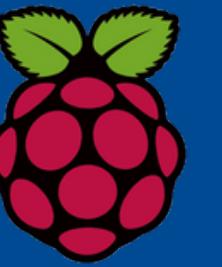
- Instalando o Software

- Passo 3: Instalar o programa Etcher que servirá de intermediário entre o cartão micro SD e a Raspberry, será utilizado para passar o Sistema Operacional recém instalado para o nosso cartão.

Link: <https://www.etcher.net/download/>



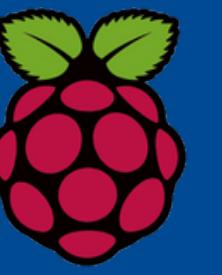
RASPBERRY PI



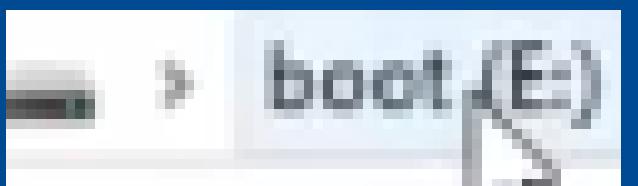
- Instalando o Software
- Passo 4: Terminado o envio do Sistema operacional para o cartão microSD vamos inserir na Raspberry e já estamos prontos para usa-la.



RASPBERRY PI



- Conexão Wi-fi
- Passo 5: Vamos criar uma pasta dentro do microSD para conectar o wi-fi na Raspberry.

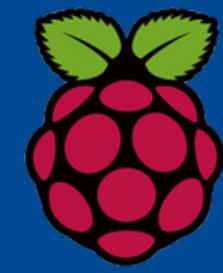


wpa_supplicant.conf - Bloco de notas

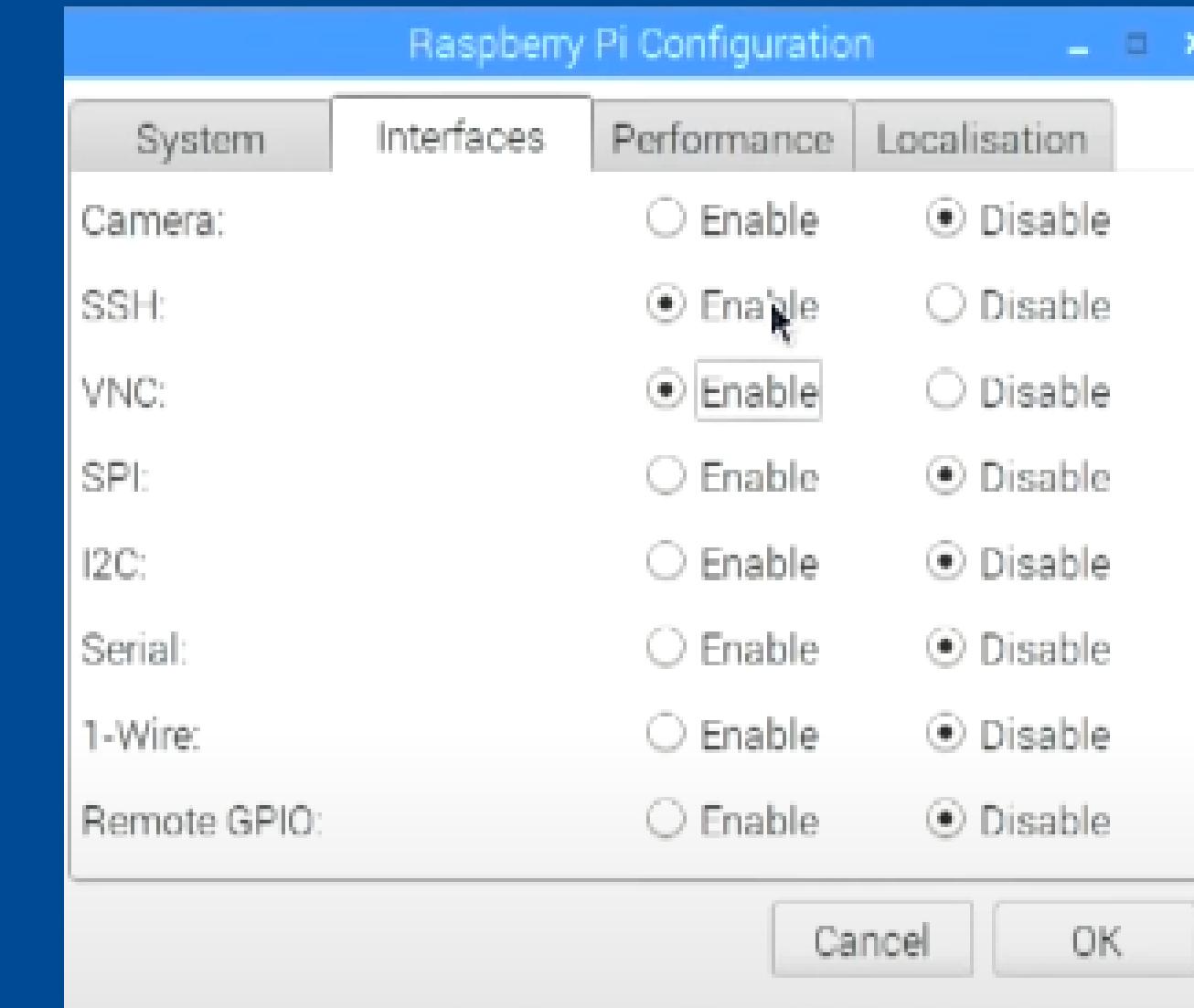
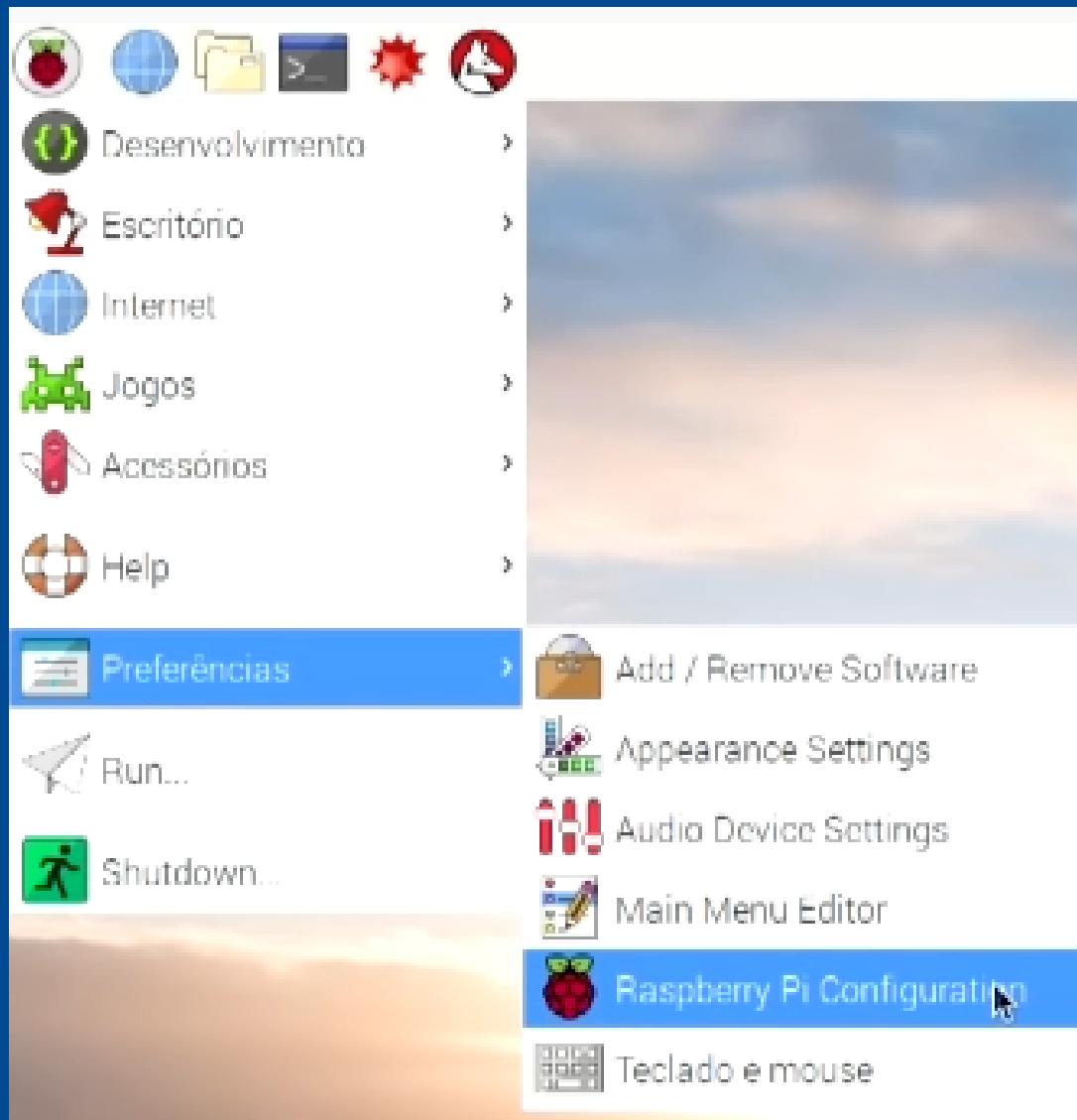
Arquivo Editar Formatar Exibir Ajuda

```
network={  
    ssid="Eletronite"  
    psk="1234"  
}
```

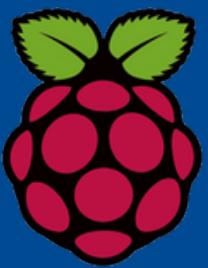
RASPBERRY PI



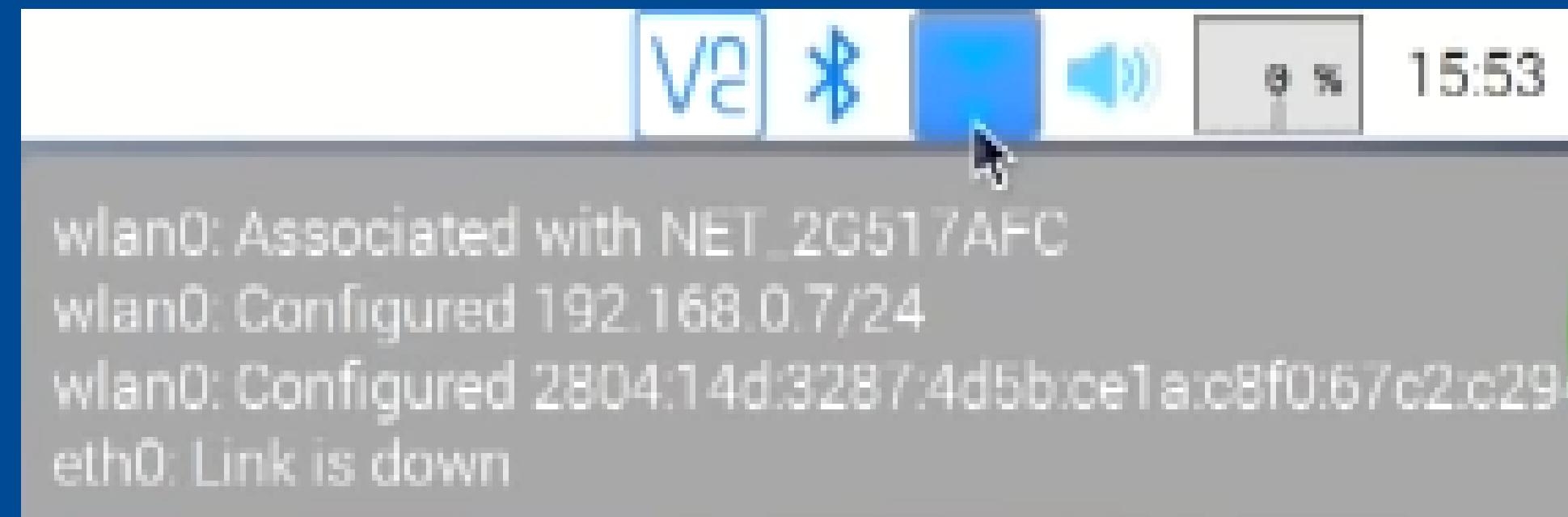
- Conexão Raspberry Notebook



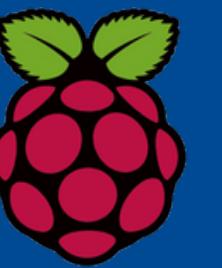
RASPBERRY PI



- Conexão Raspberry Notebook
- Passo 6: Precisamos do endereço IP da Raspberry para conecta-la ao Notebook.

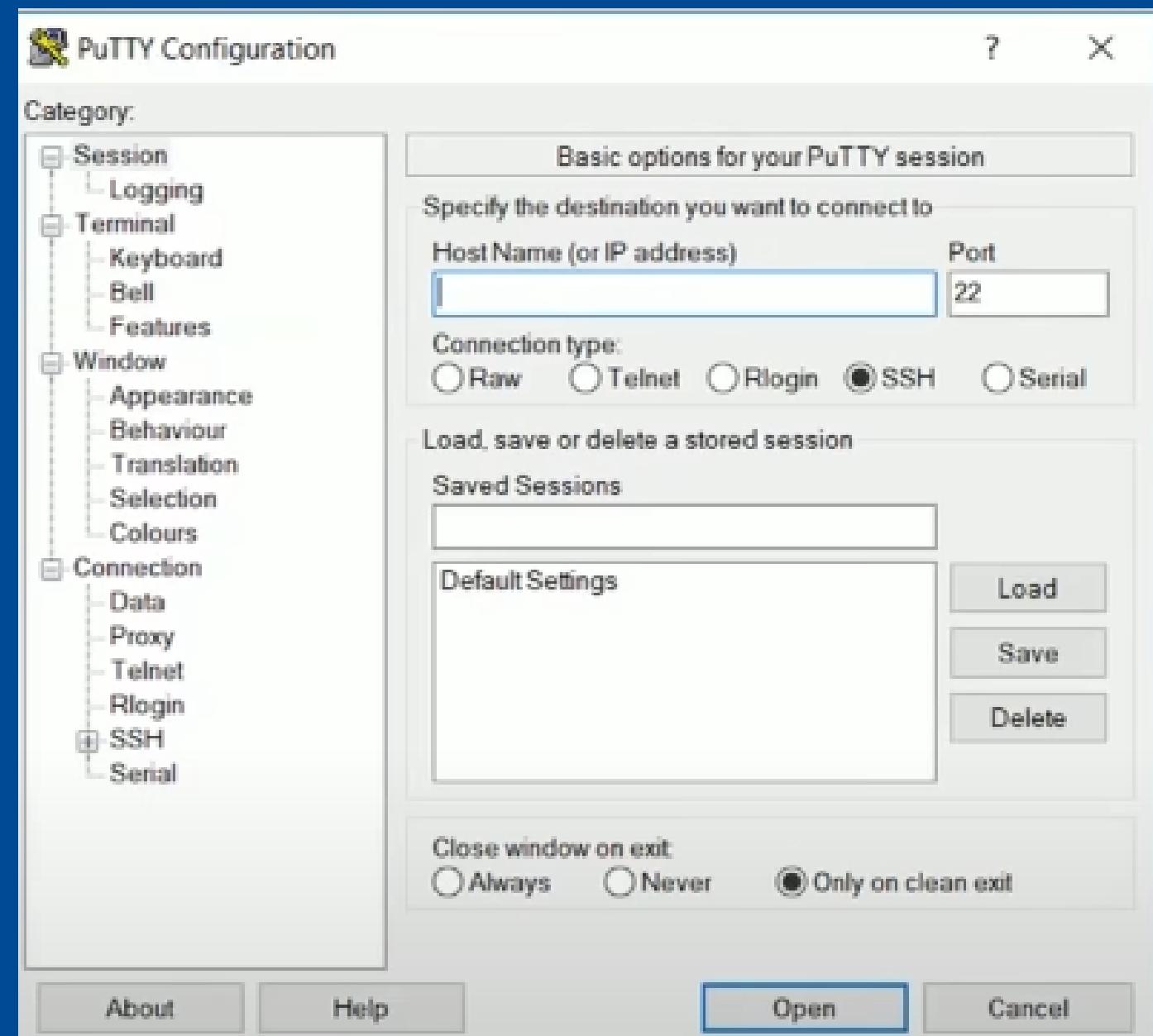


RASPBERRY PI



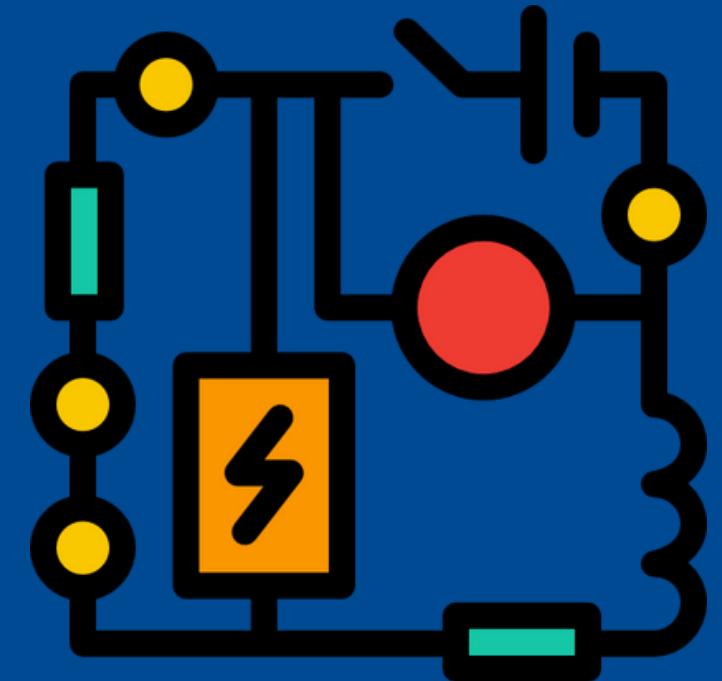
- Conexão Raspberry Notebook
- Passo 6: Precisamos instalar o programa PuTTY como intermediário para a conexão do Raspberry com o Notebook.

Link: <https://www.putty.org/>

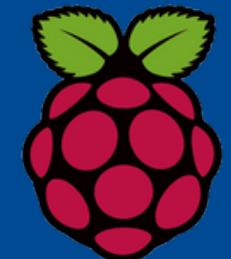
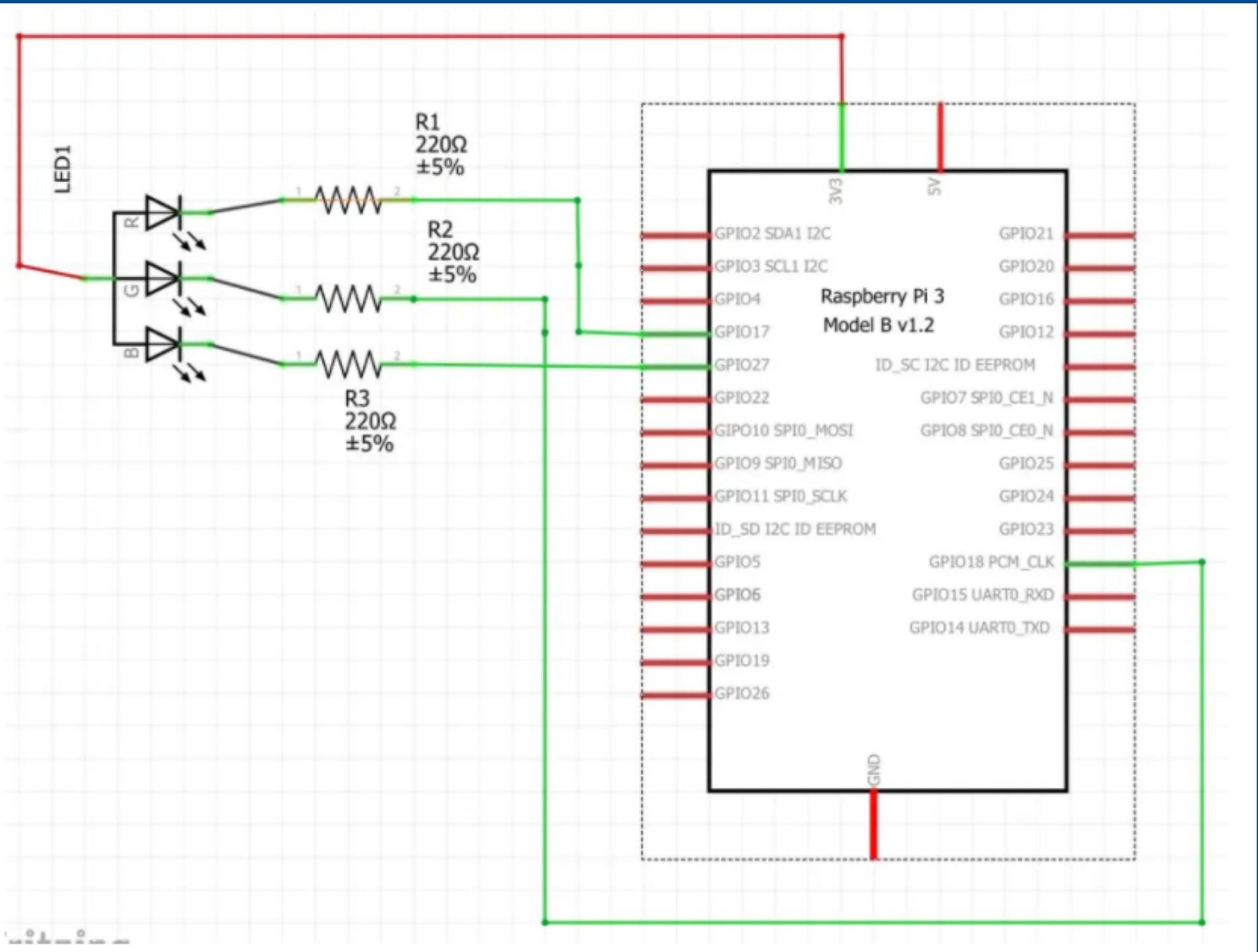


Montagem de Circuitos

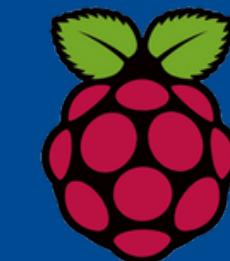
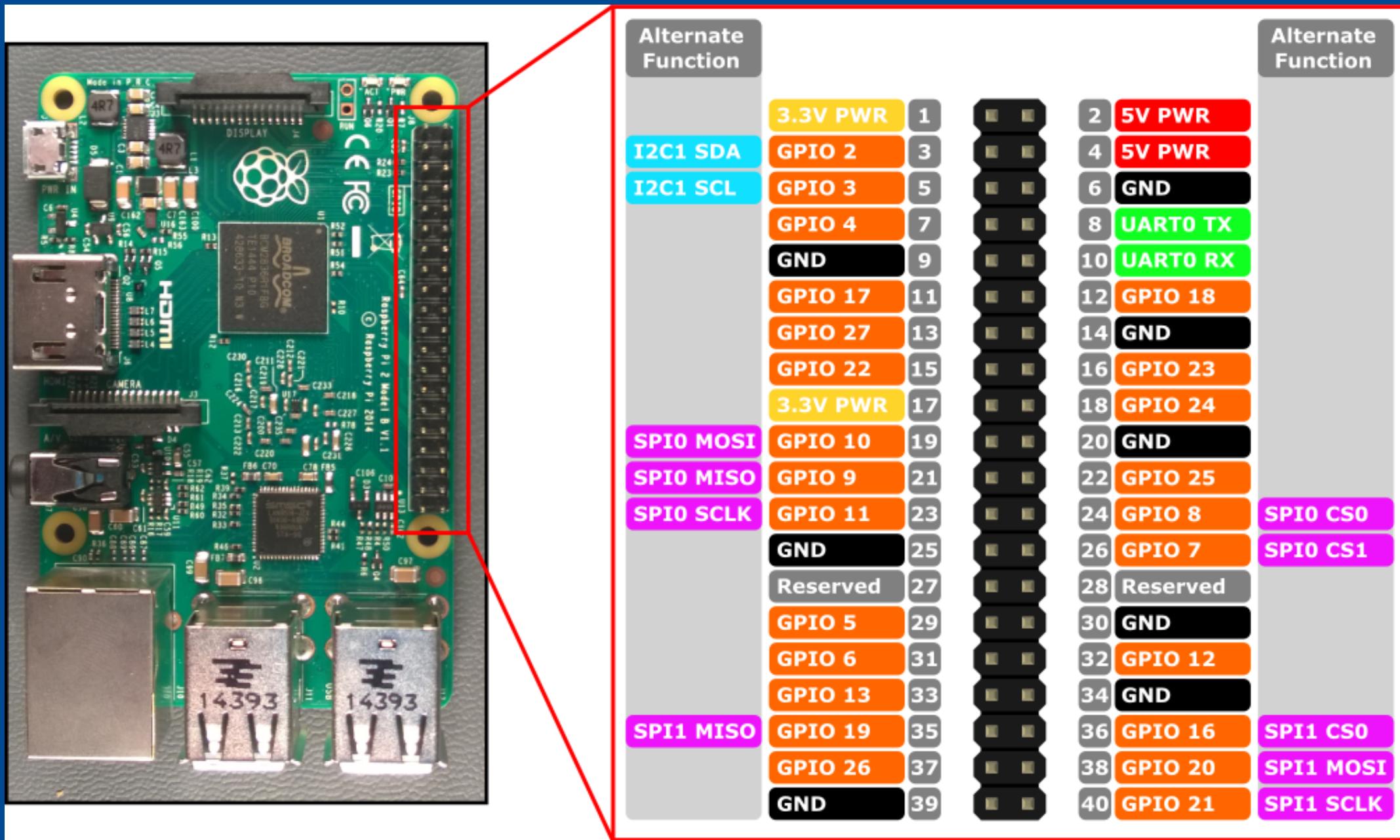
Preparamos circuitos para aprendermos a fundo
colocando a mão na massa!



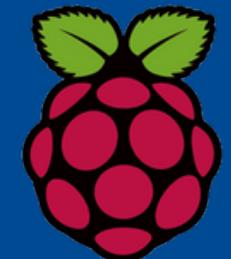
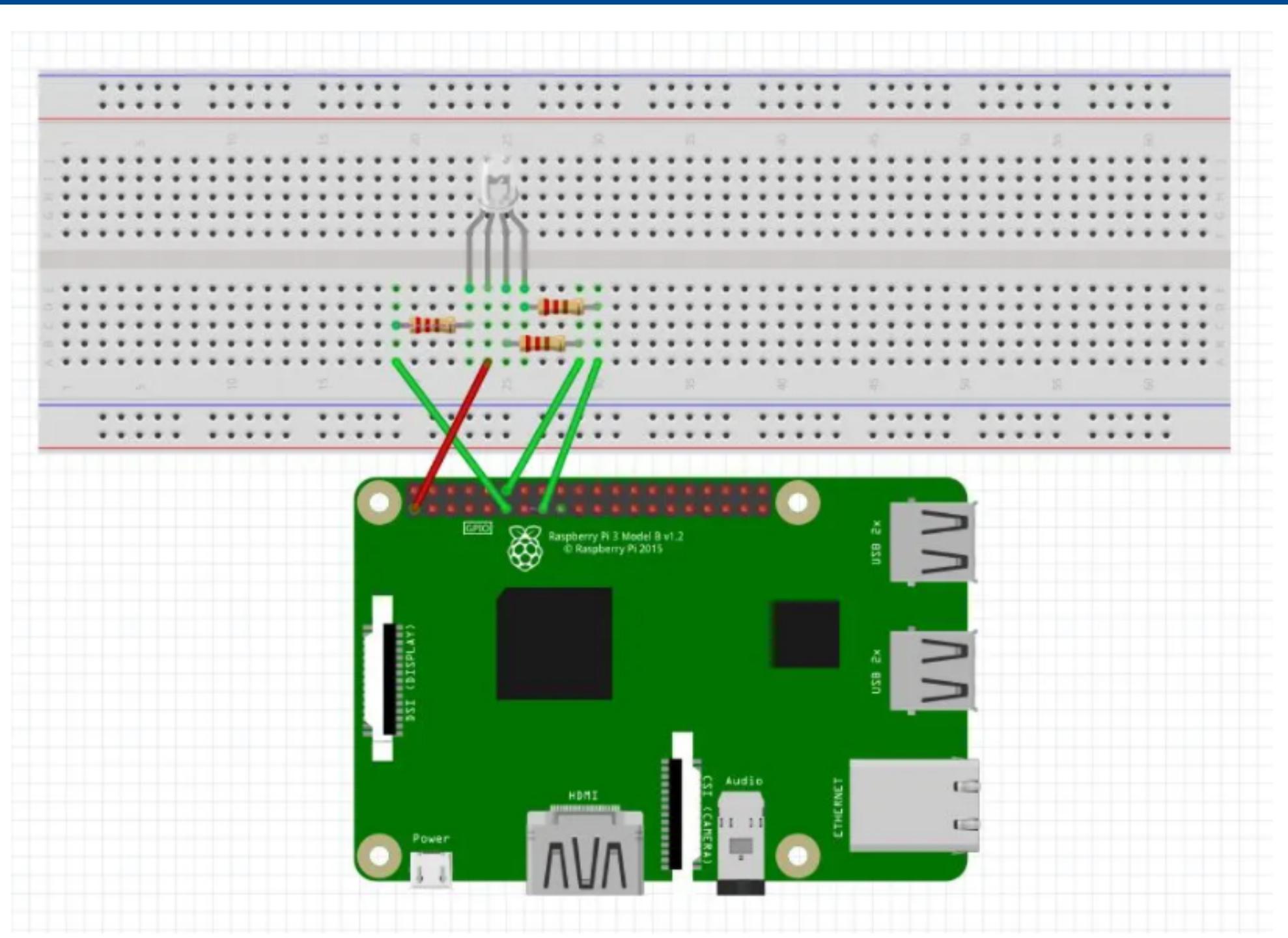
Circuito 01: Raspberry Pi e LED RGB



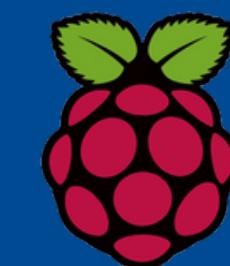
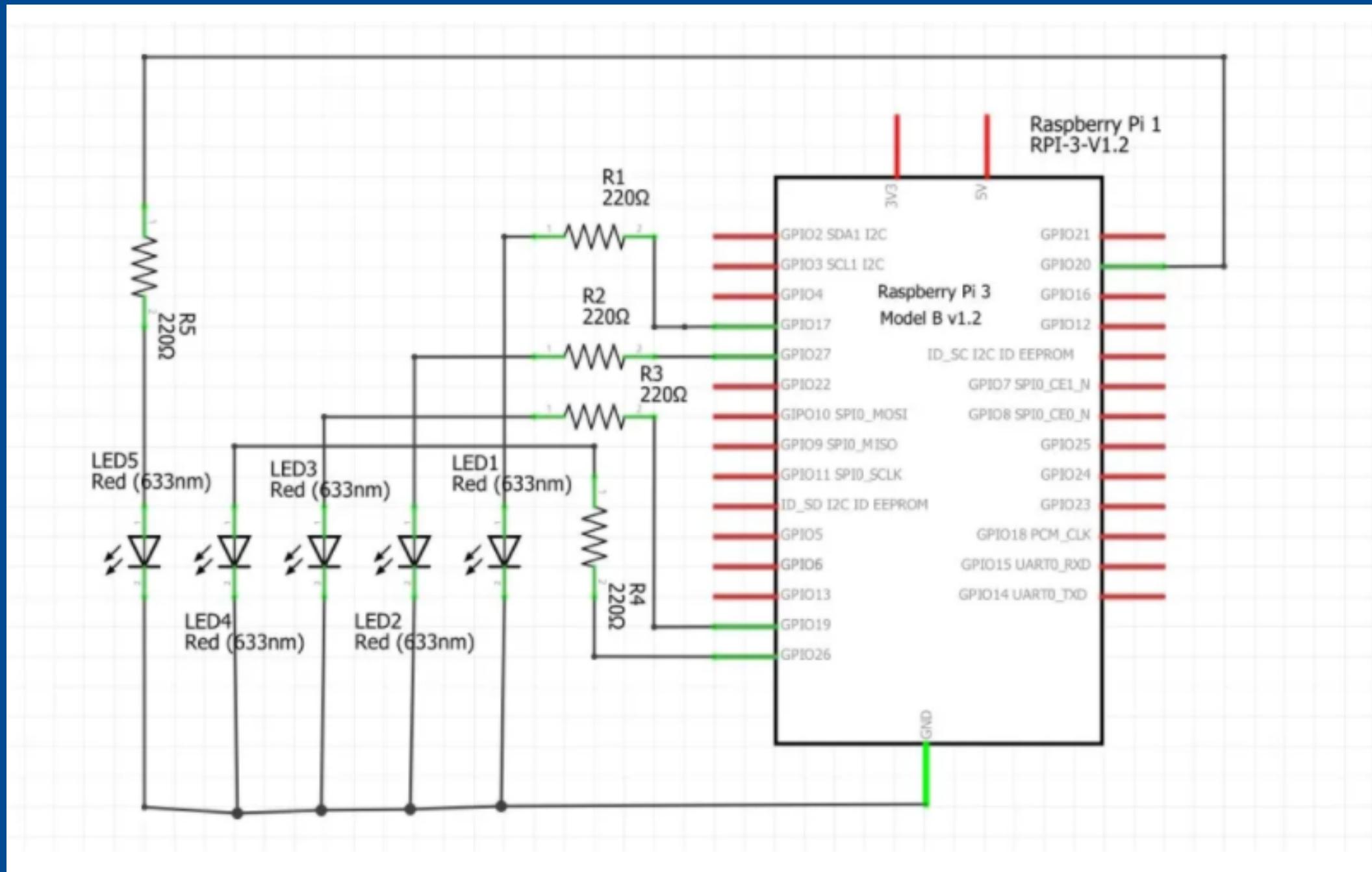
Circuito 01: Raspberry Pi e LED RGB



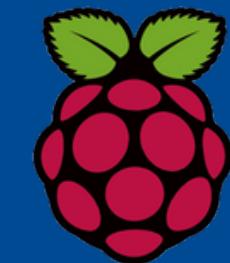
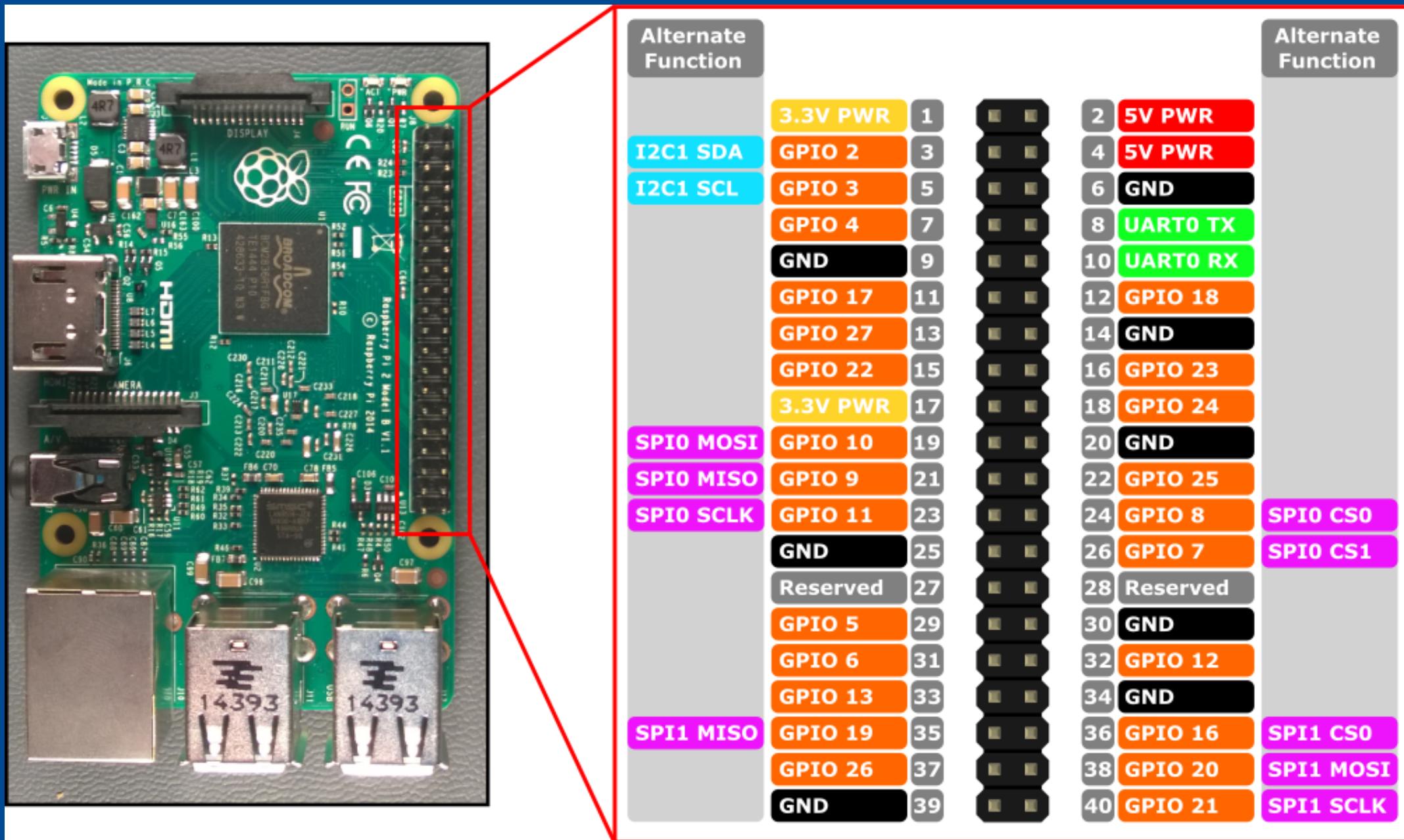
Circuito 01: Raspberry Pi e LED RGB



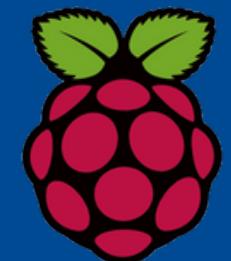
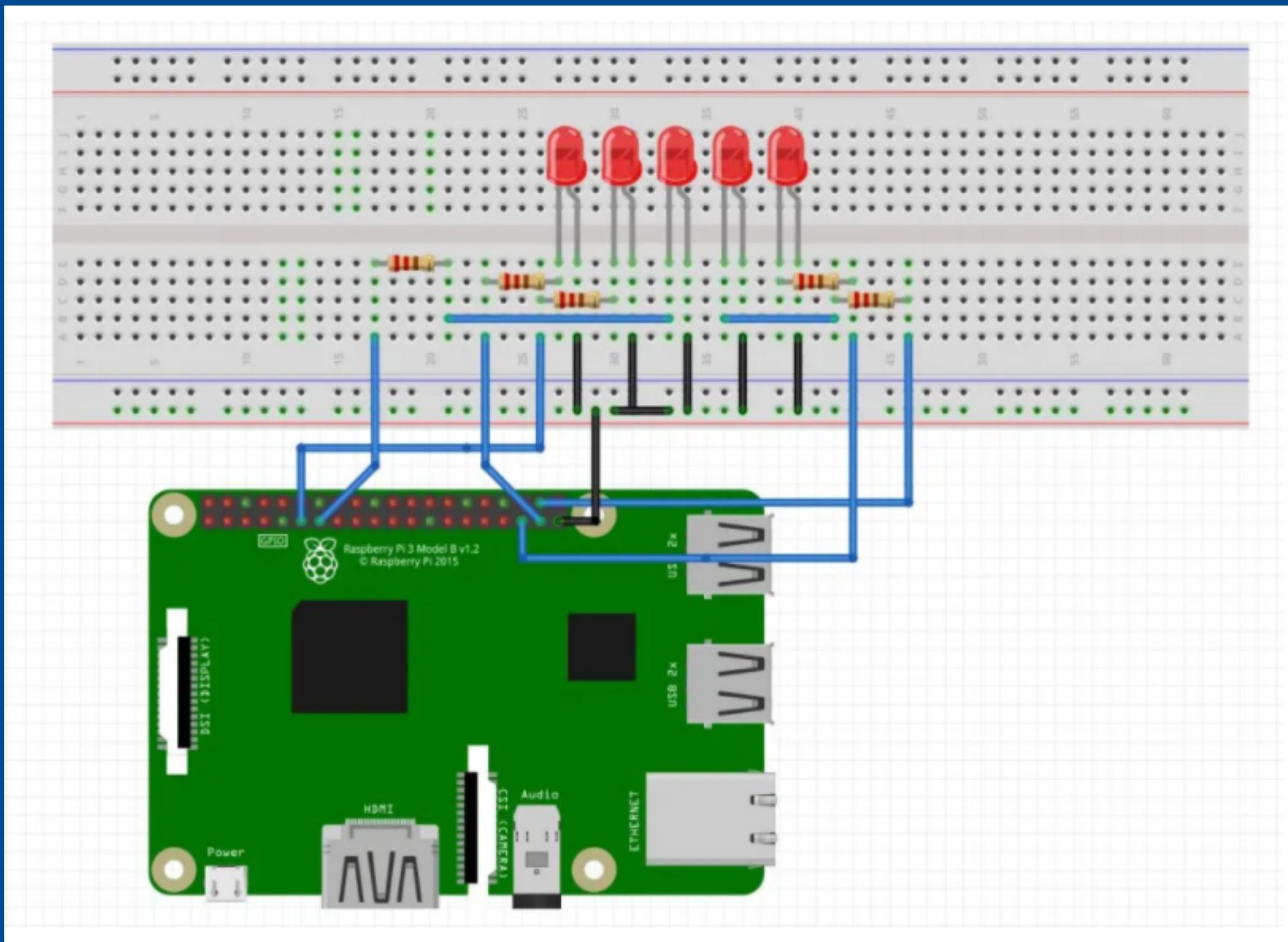
Circuito 02: Raspberry Pi e LED's



Circuito 02: Raspberry Pi e LED's



Circuito 02: Raspberry Pi e LED's



Obrigada!

