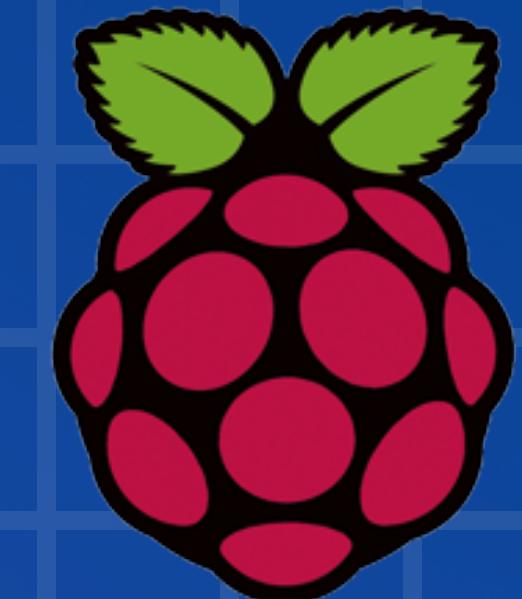
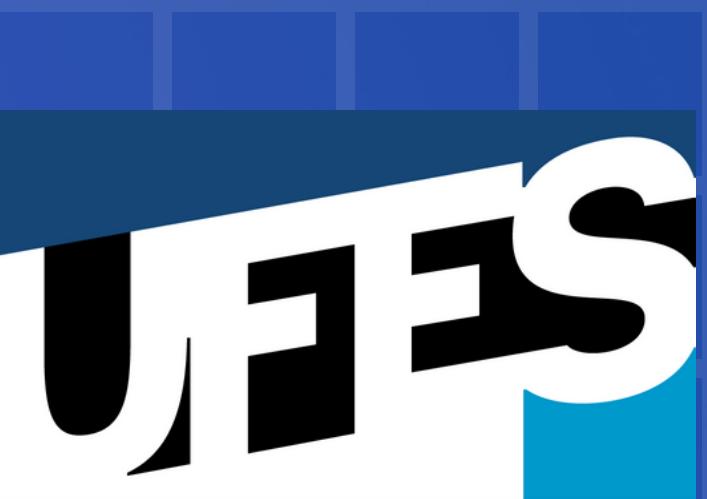


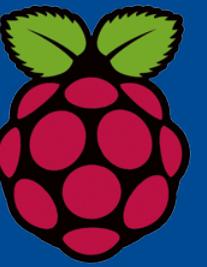
CONSUMO SUSTENTÁVEL DE ENERGIA EM
AMBIENTES ESCOLARES: INICIATIVAS FEMININAS

OFICINA RASPBERRY PI

Elen Antunes, Júlia Thompson e Luany Toniato



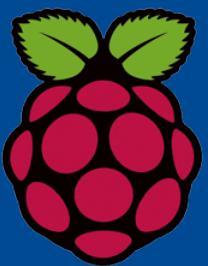
RASPBERRY PI



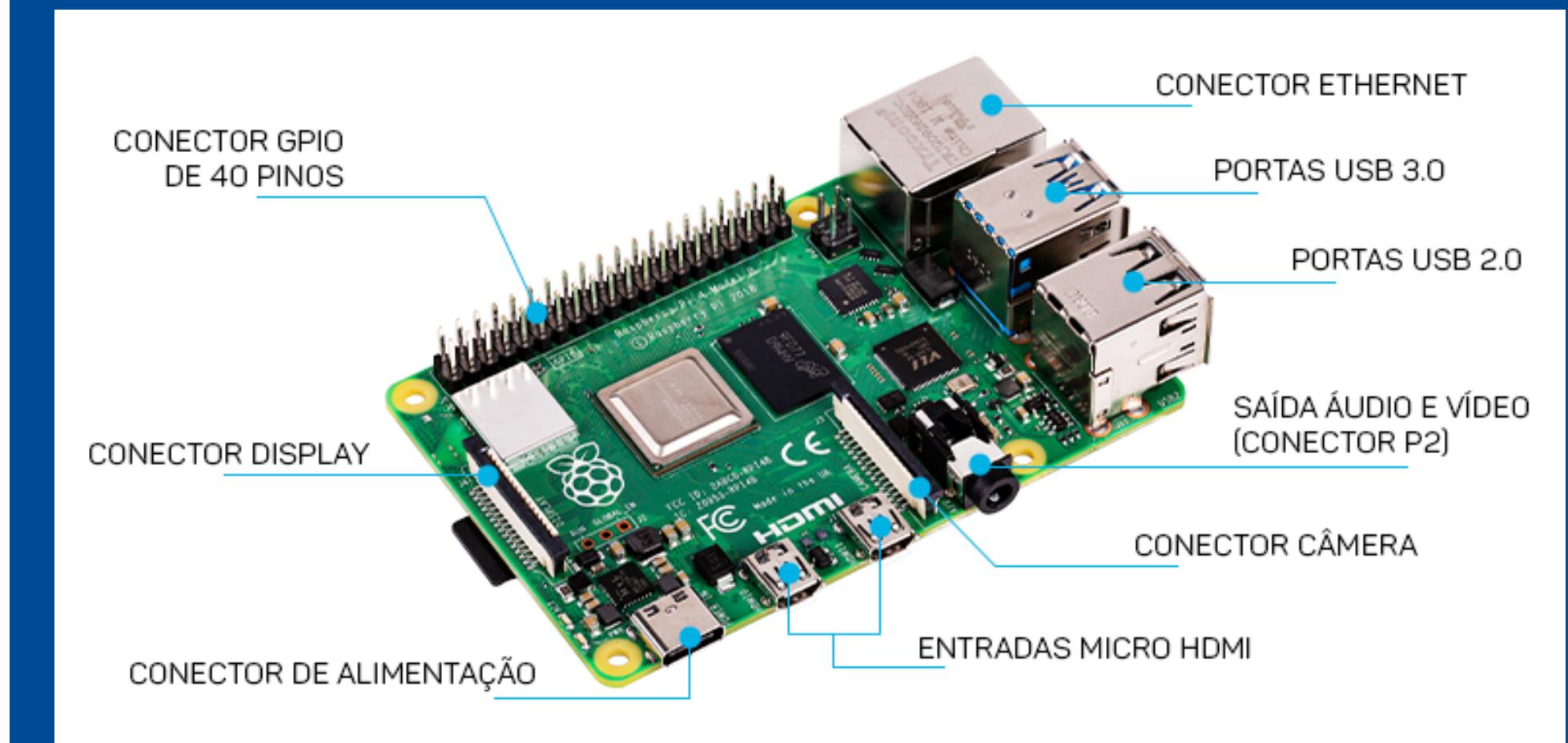
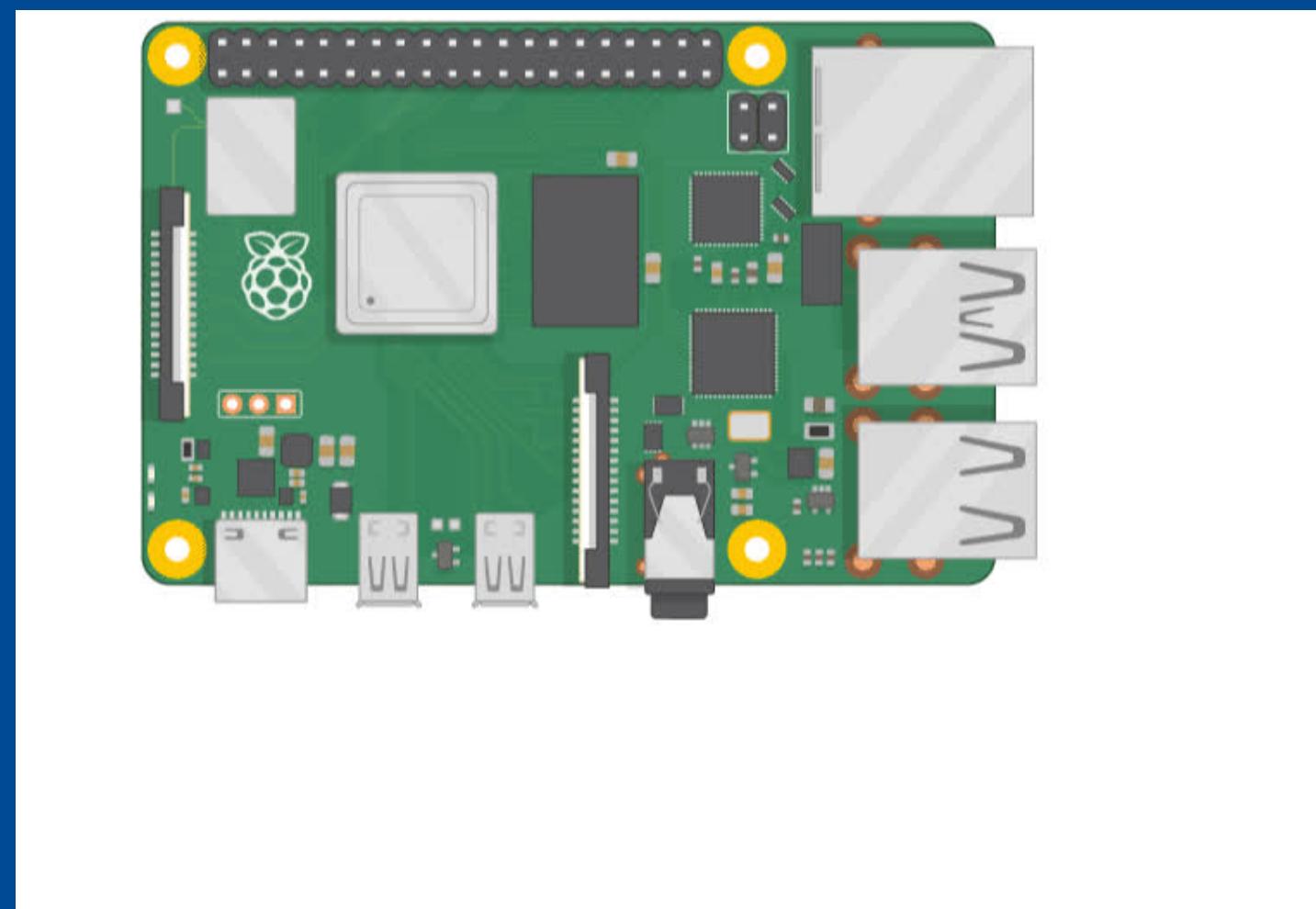
- O que é?

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.

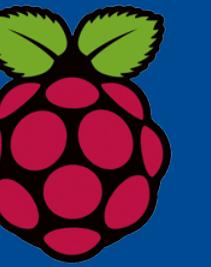
RASPBERRY PI



- O que é?



RASPBERRY PI

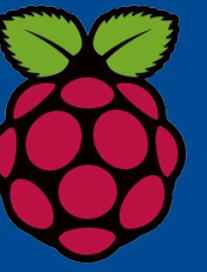


- Primeiros Passos

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.

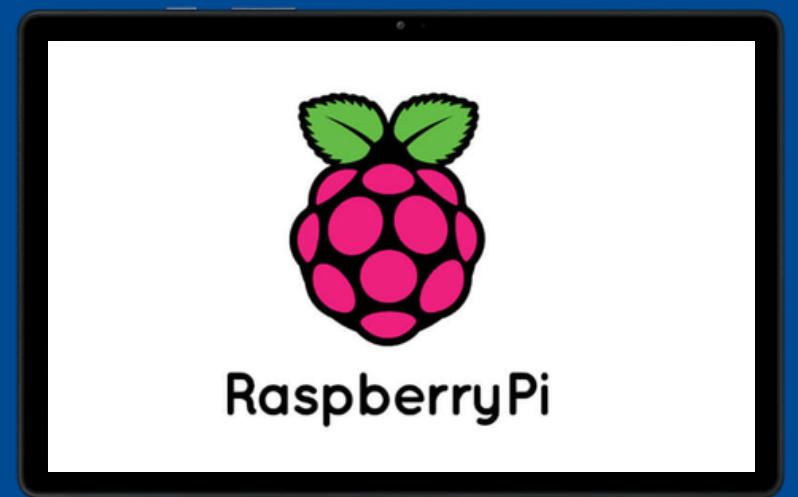
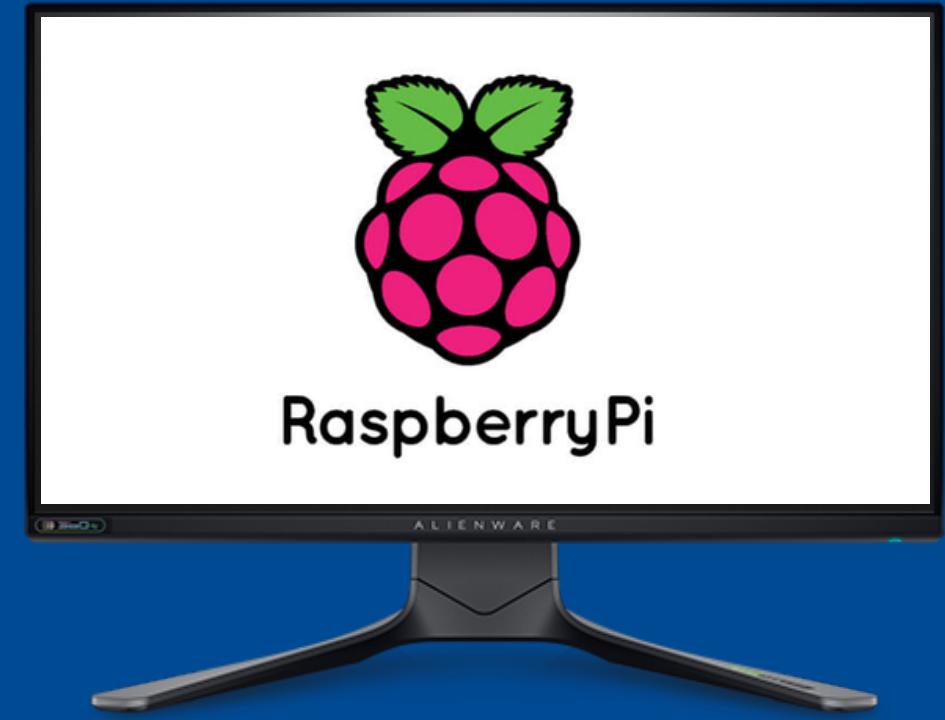
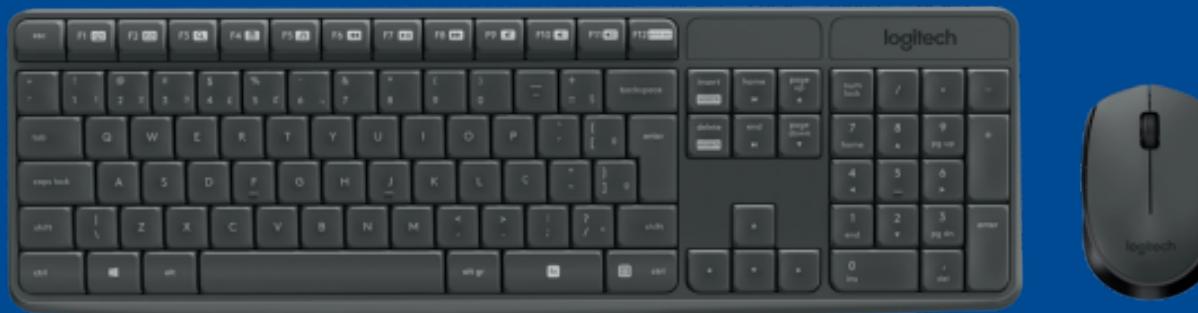


RASPBERRY PI

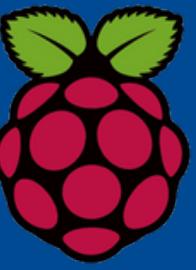


- Periféricos

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

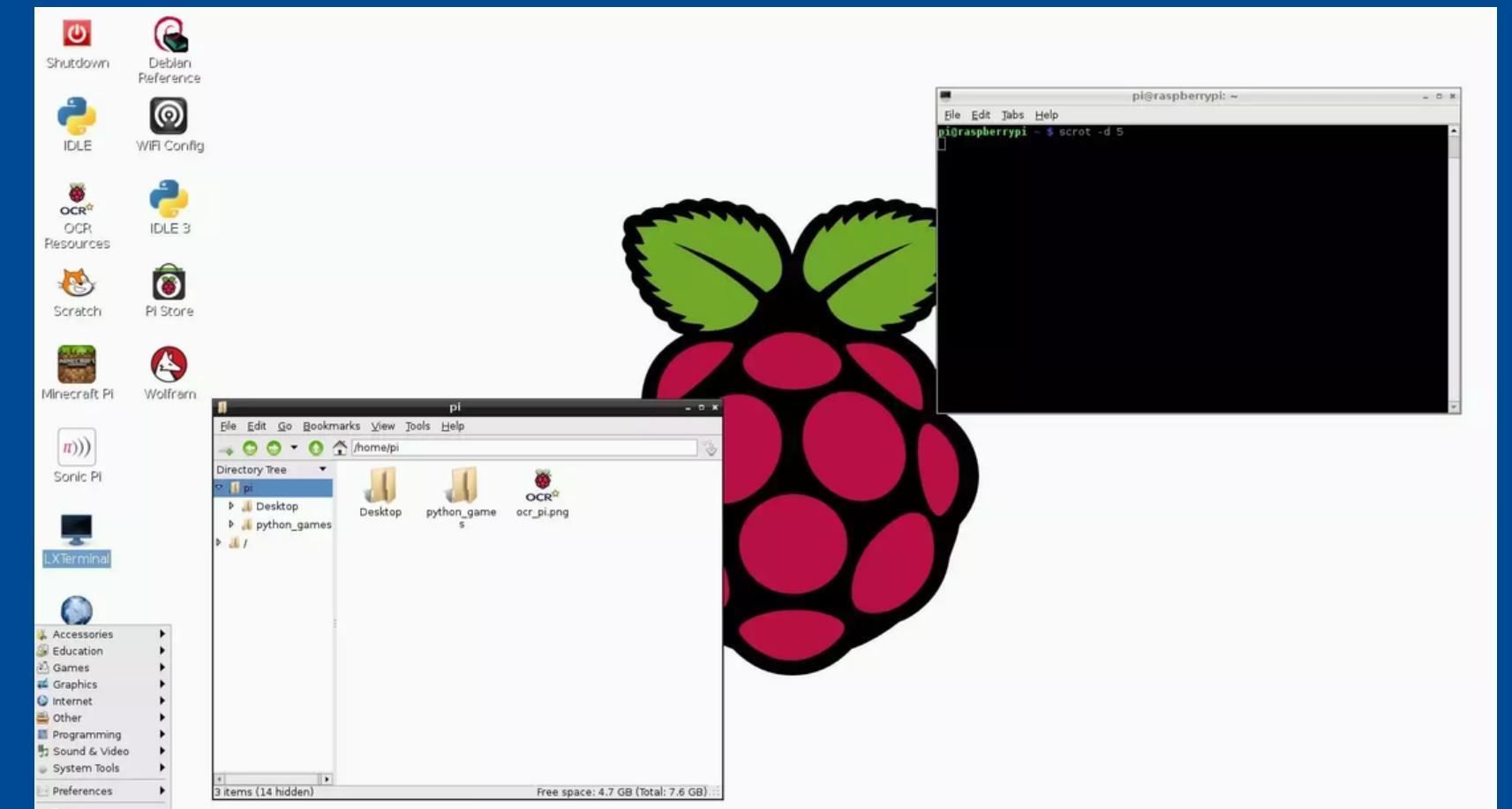


RASPBERRY PI

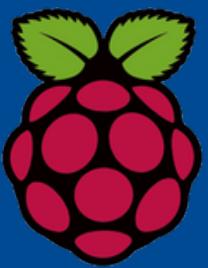


- Instalando o Sistema operacional

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.

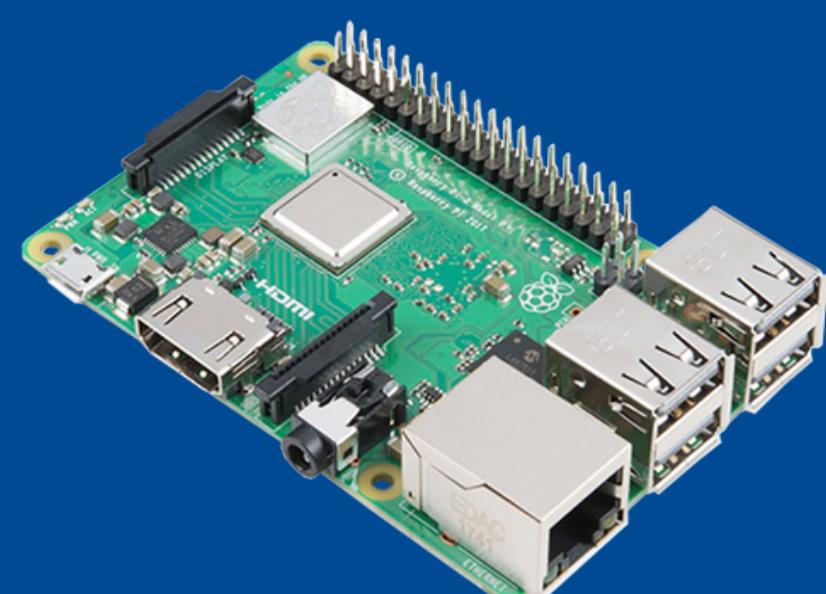


RASPBERRY PI

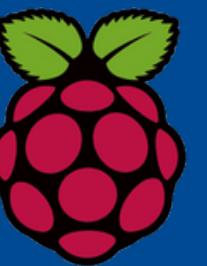


- Instalando o Sistema operacional

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.



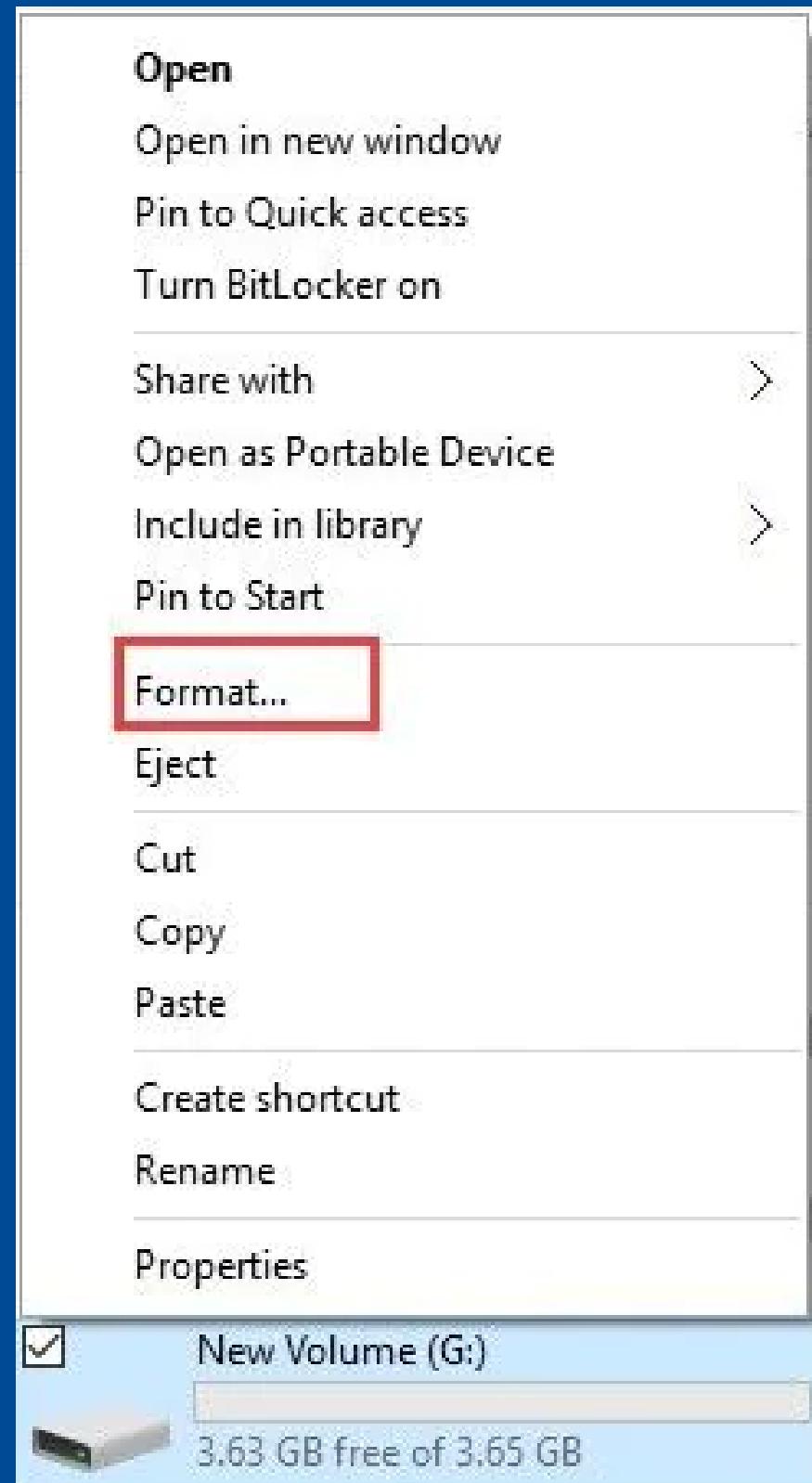
RASPBERRY PI



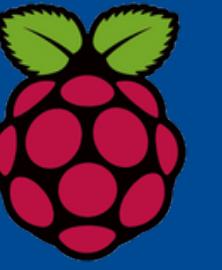
- Instalando o Sistema operacional

Passo 1: Formatar o cartão microSD

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



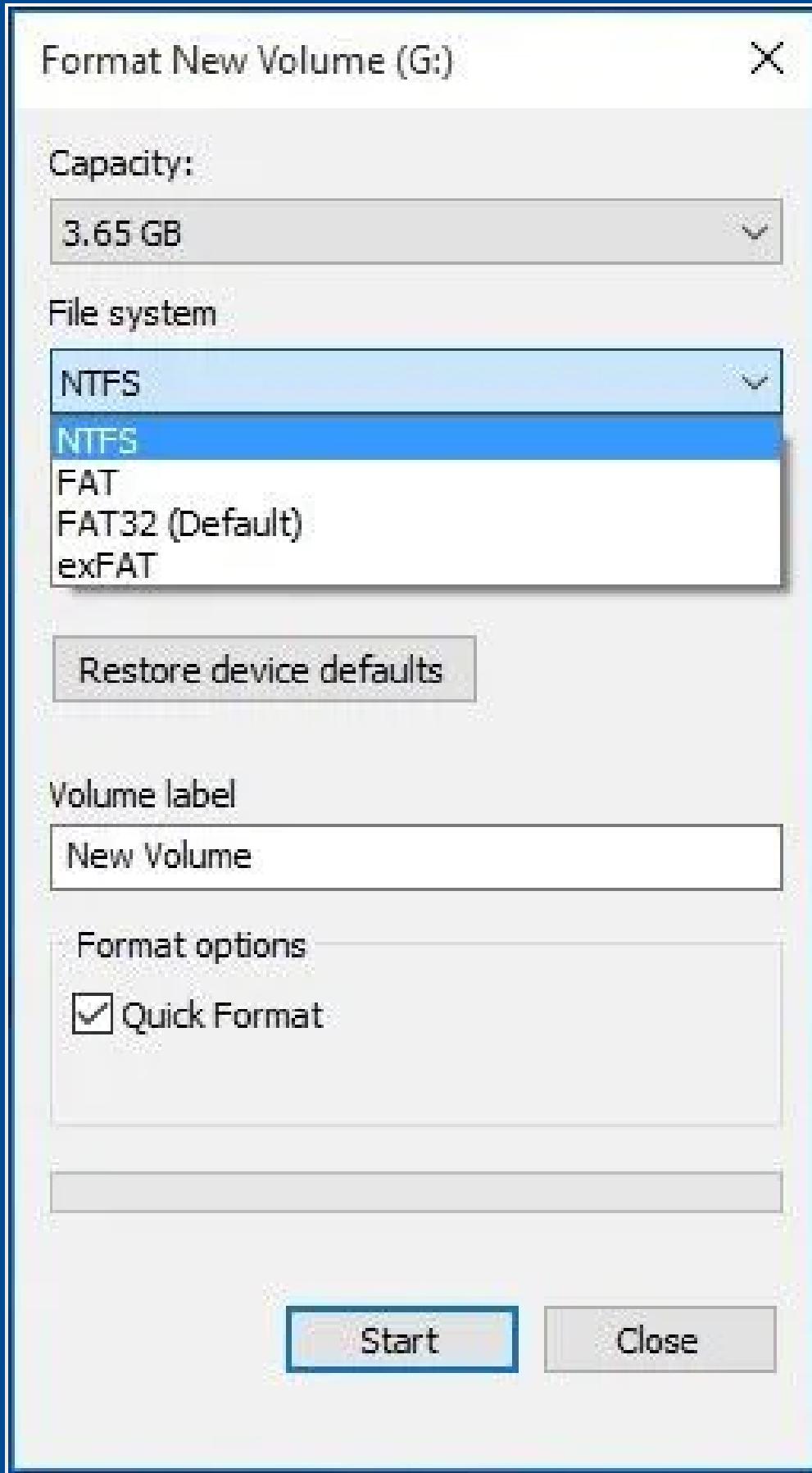
RASPBERRY PI



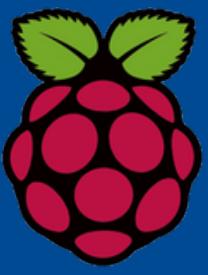
- Instalando o Sistema operacional.

Passo 1: Formatar o cartão microSD

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



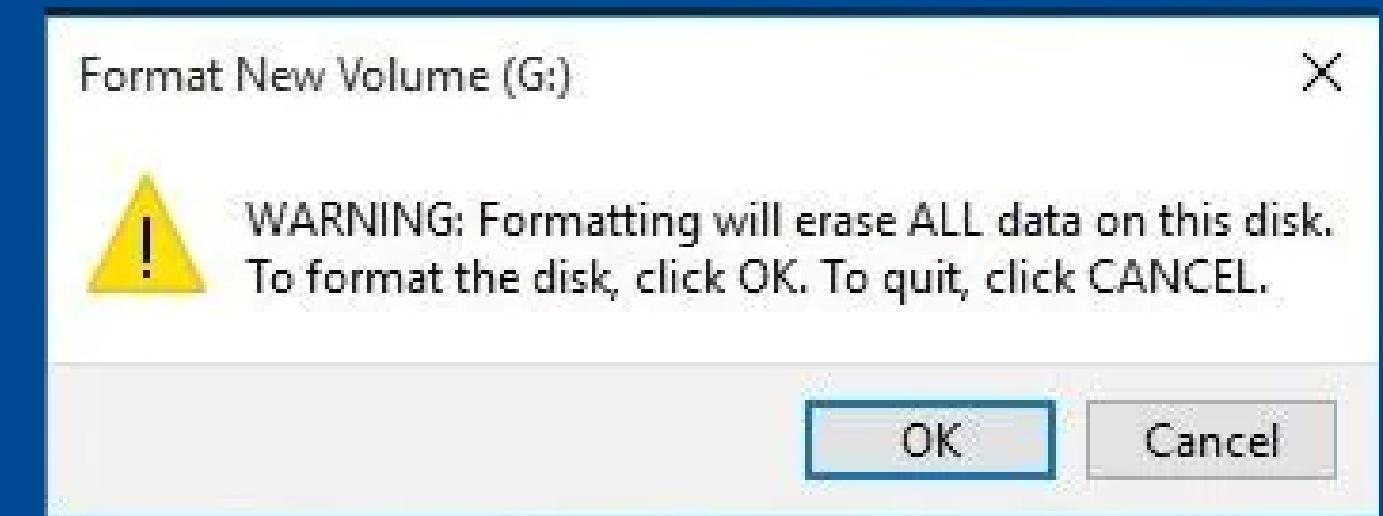
RASPBERRY PI



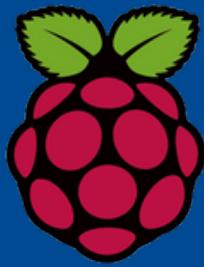
- Instalando o Sistema operacional

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 Sistema operacional

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

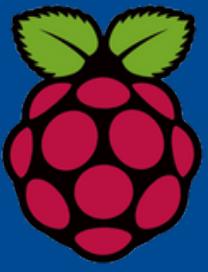
Link:

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

The screenshot shows the official Raspberry Pi website's navigation bar at the top, with links for BLOG, DOWNLOADS (highlighted in red), COMMUNITY, HELP, FORUMS, and EDUCATION. Below the navigation is a red header bar with the text "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 software like Python, Scratch, and Mathematica. A note cautions users about unzipping tools on older platforms. Two download options are shown: "RASPBIAN STRETCH WITH DESKTOP" and "RASPBIAN STRETCH LITE". A red arrow points to the "Download ZIP" button for the desktop version. Both versions include their respective file sizes, release dates, kernel versions, and SHA-256 checksums.

Image	Name	Description	Version	Release date	Kernel version	Release notes	SHA-256
	RASPBIAN STRETCH WITH DESKTOP	Image with desktop based on Debian Stretch	April 2018	2018-04-18	4.14	Link	SHA-256: 0e2922e551a895b136f2ea83d1bc0ca71e016e6d50244ba3da52bd764 242dc96 df5d1b6
	RASPBIAN STRETCH LITE	Minimal image based on Debian Stretch	April 2018	2018-04-18	4.14	Link	SHA-256: 5a0747b2bfb8c8664192831b7dc5b22847718a1cb77639a1f3db3683b

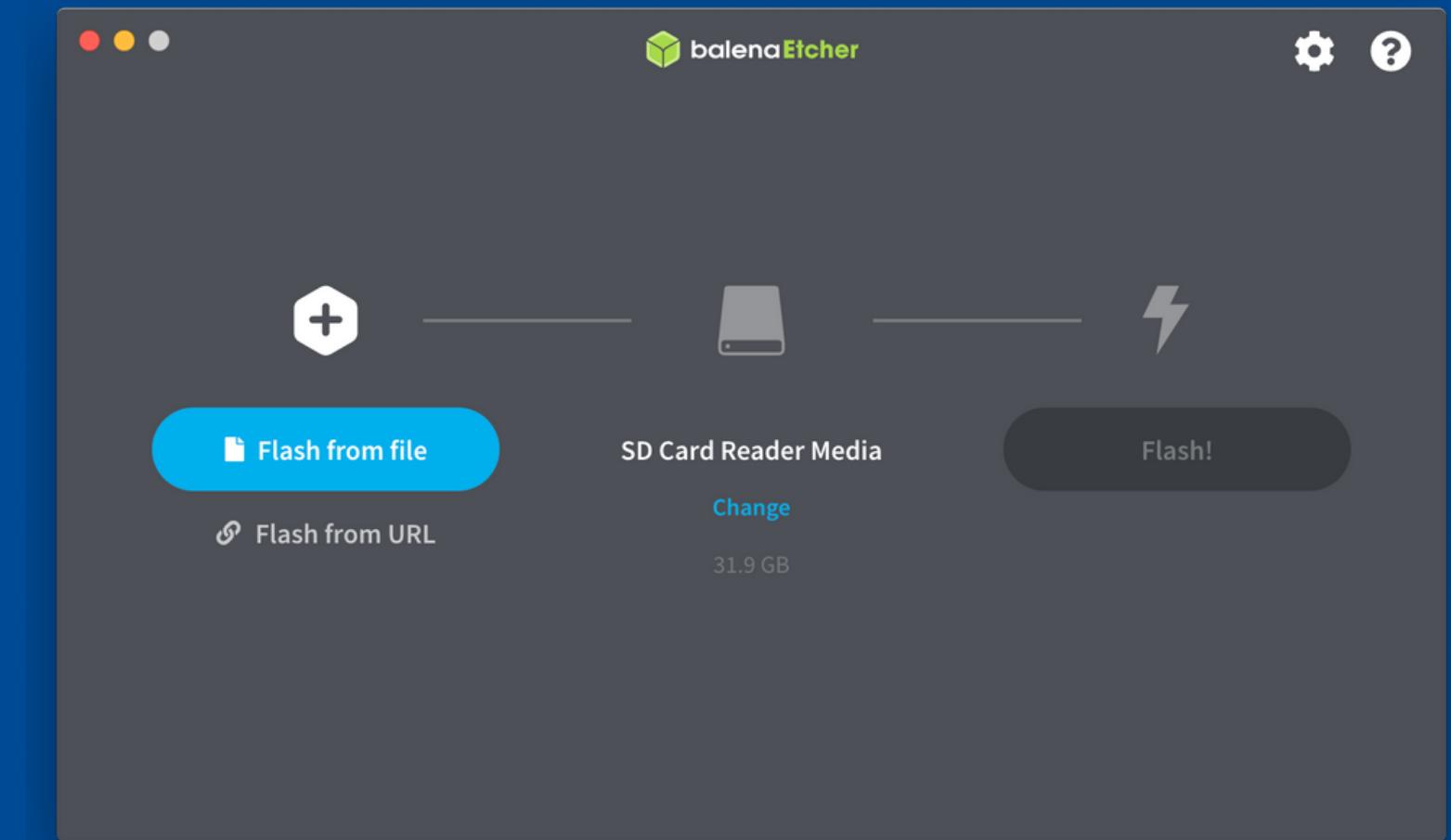
RASPBERRY PI



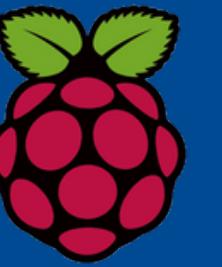
- Instalando o Sistema operacional

- 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

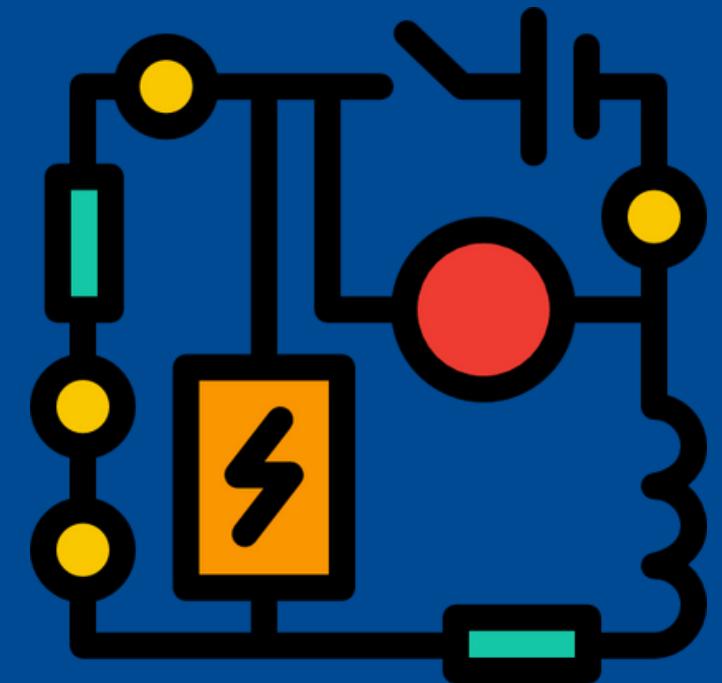


- Instalando o Sistema operacional
- Passo 4: Terminado o envio do Sistema operacional para o cartão microSD vamos inserir na Raspberry e já estamos prontos para usa-la.

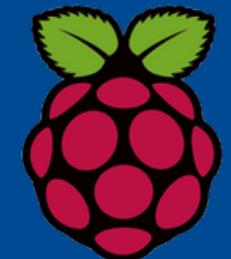
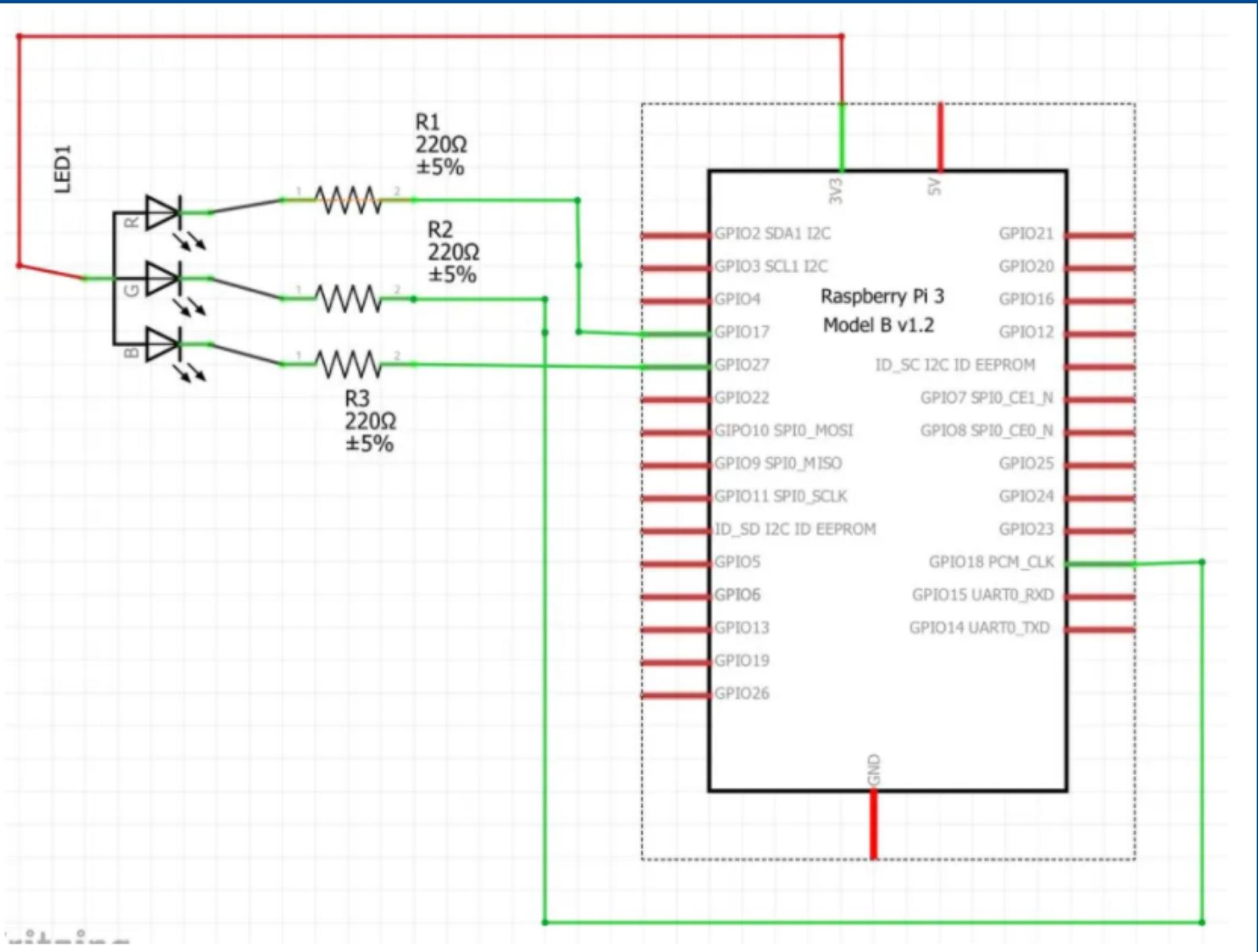


Montagem de Circuitos

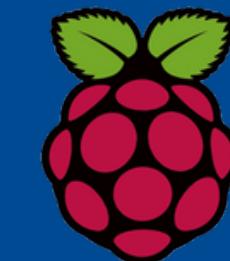
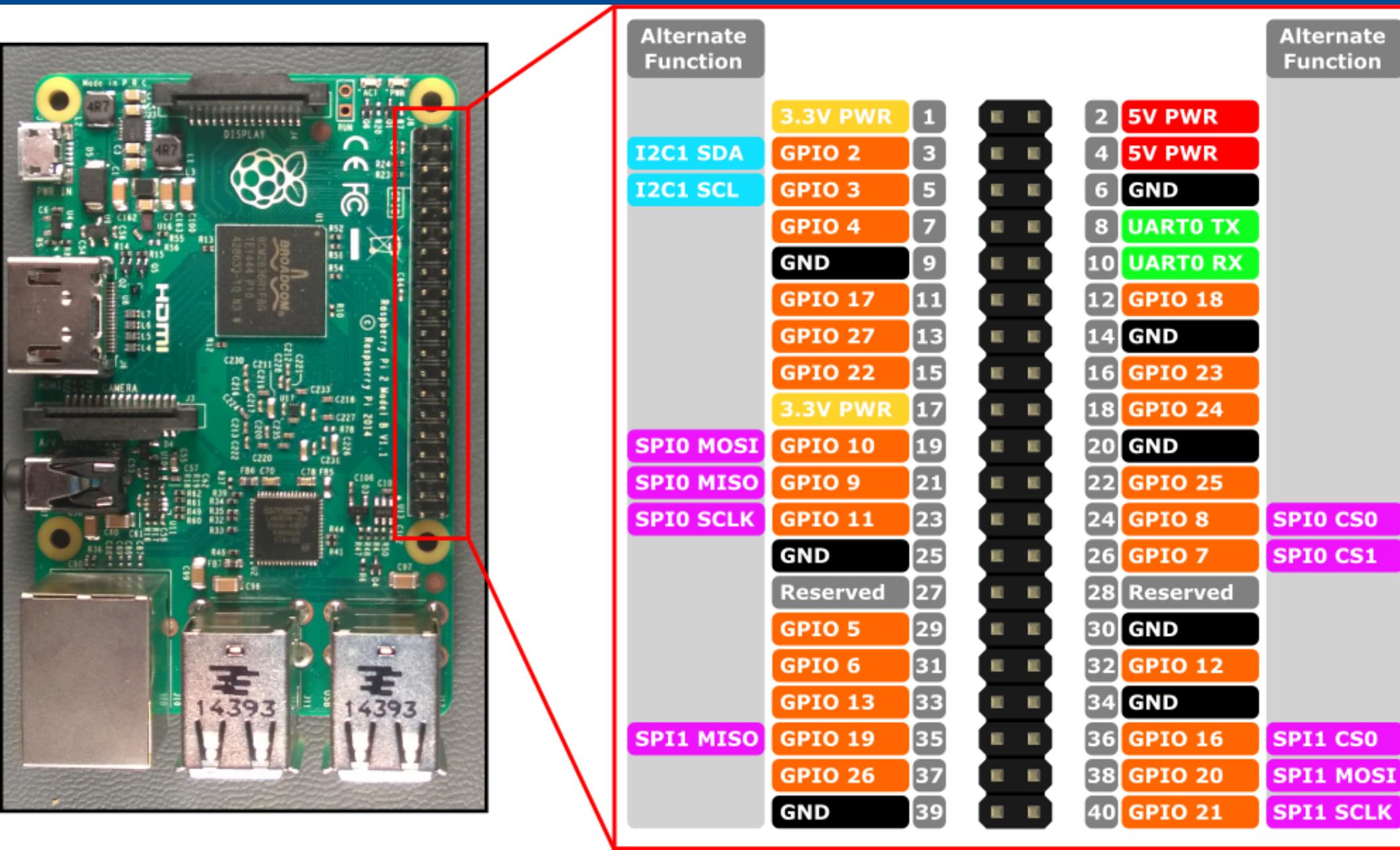
Preparamos circuitos para aprendermos a fundo
colocando a mão na massa!



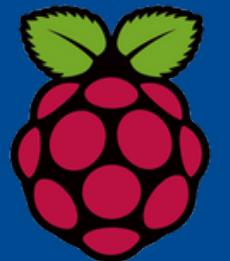
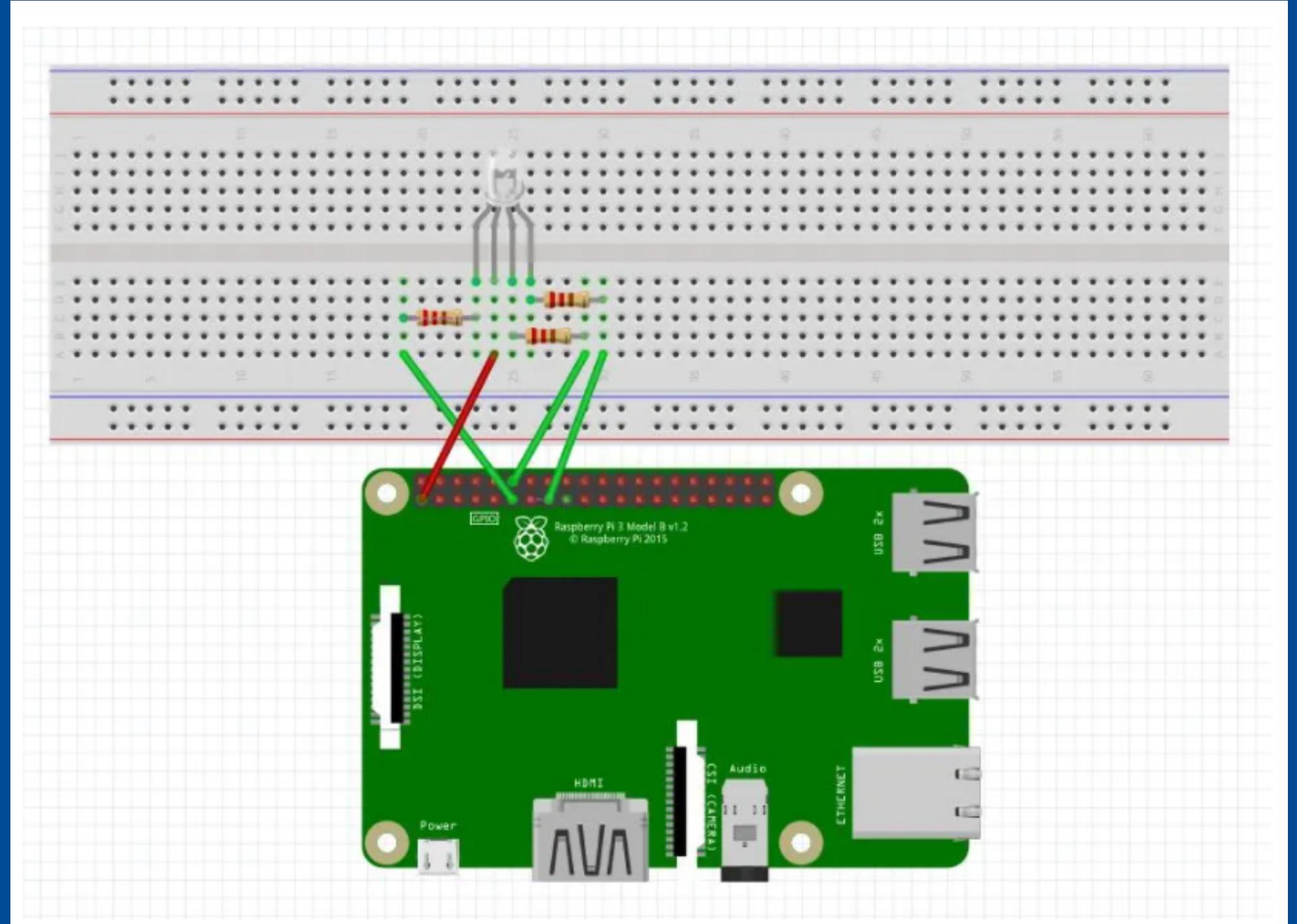
Circuito 01: Raspberry Pi e LED RGB



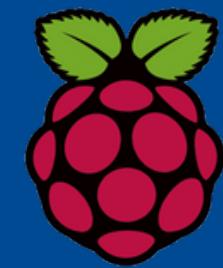
Circuito 01: Raspberry Pi e LED RGB



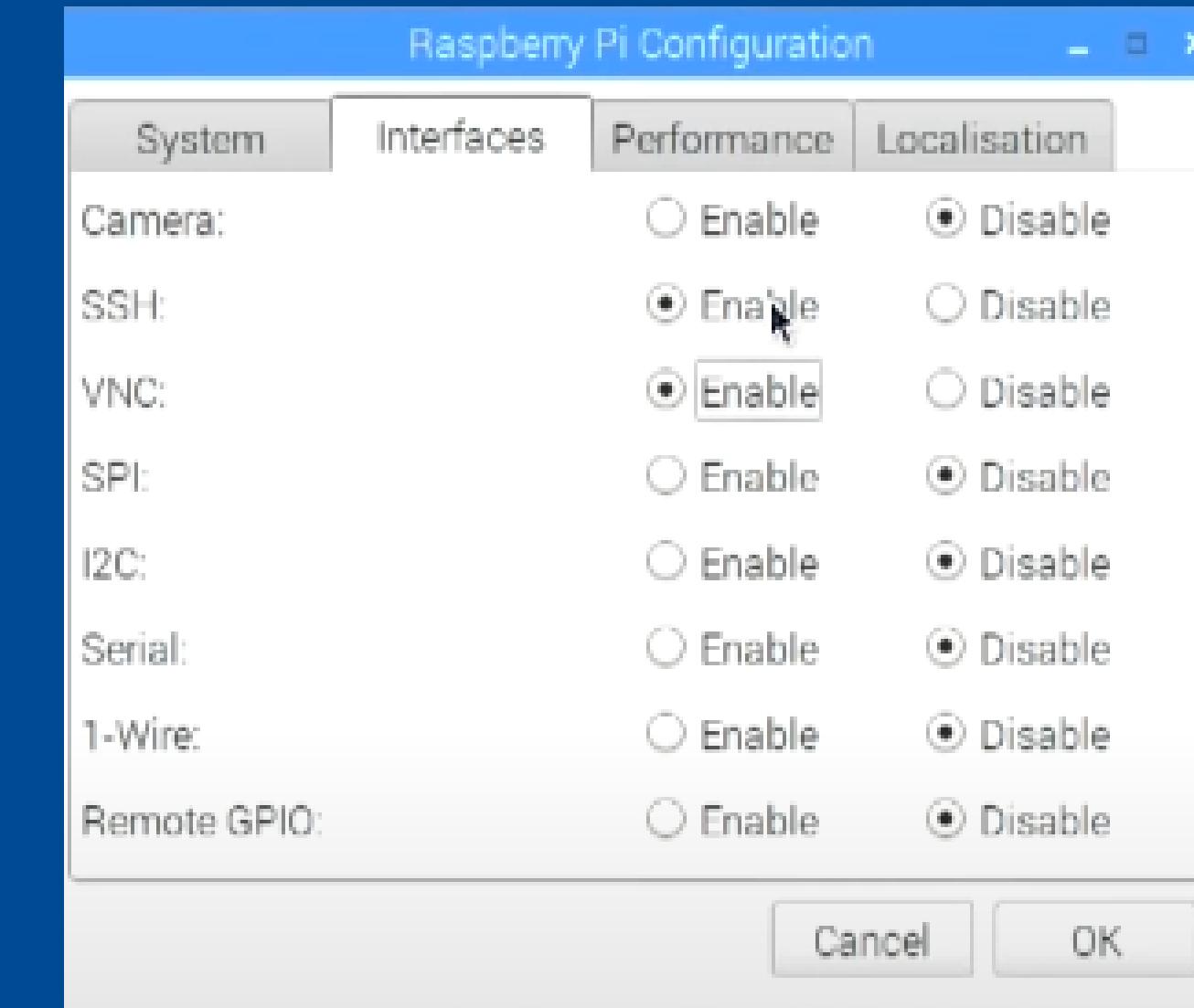
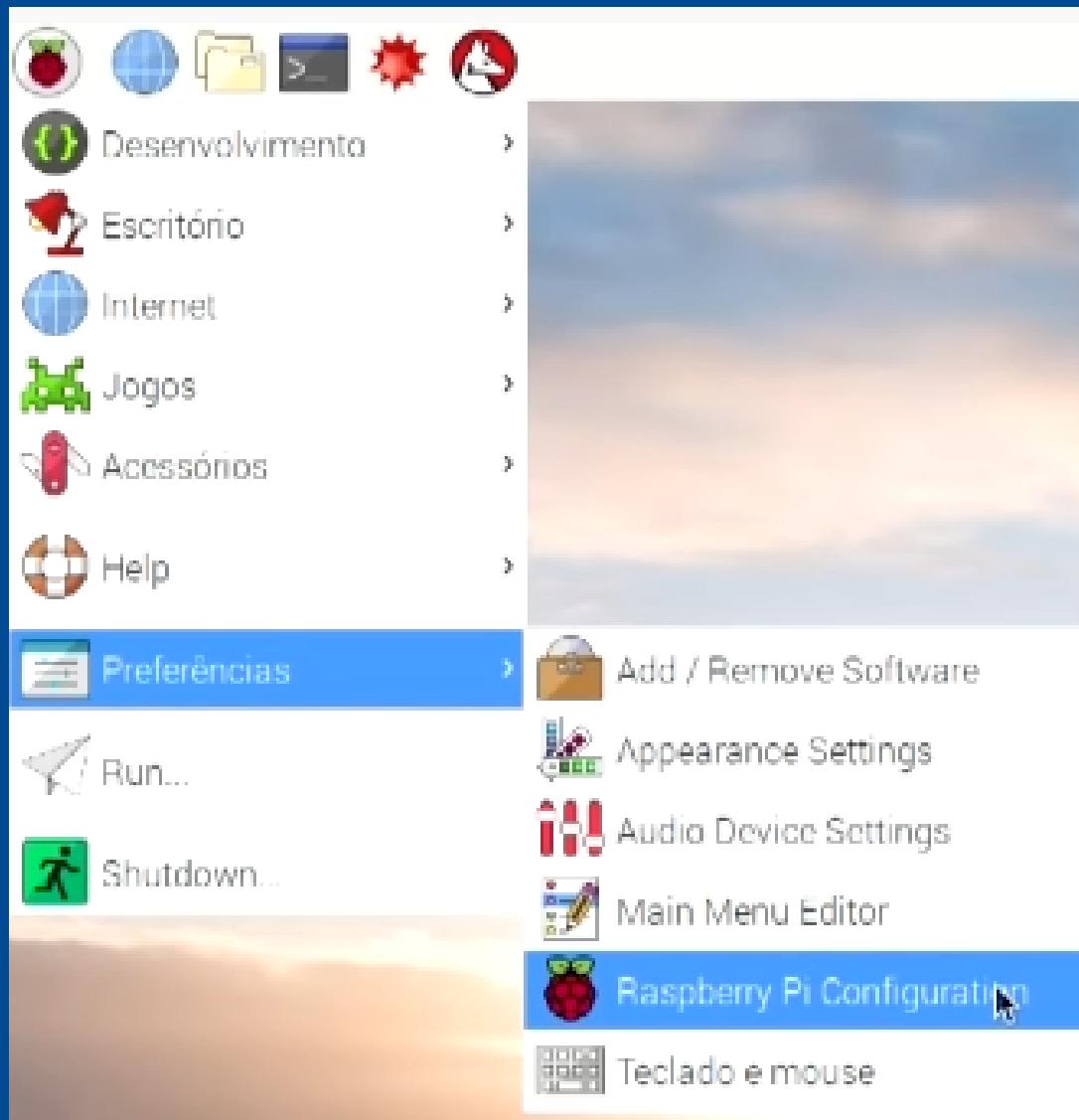
Circuito 01: Raspberry Pi e LED RGB



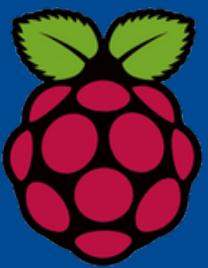
RASPBERRY PI



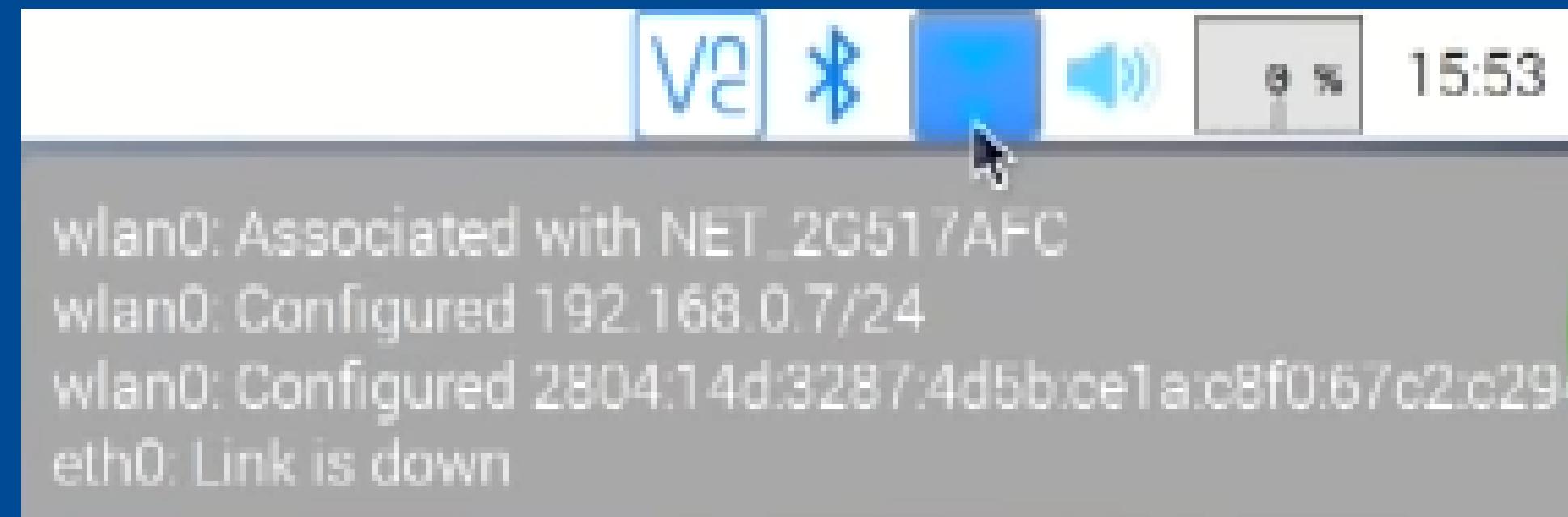
- Conexão Raspberry Notebook



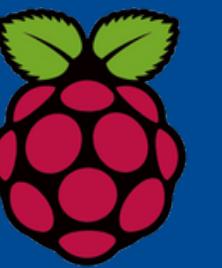
RASPBERRY PI



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

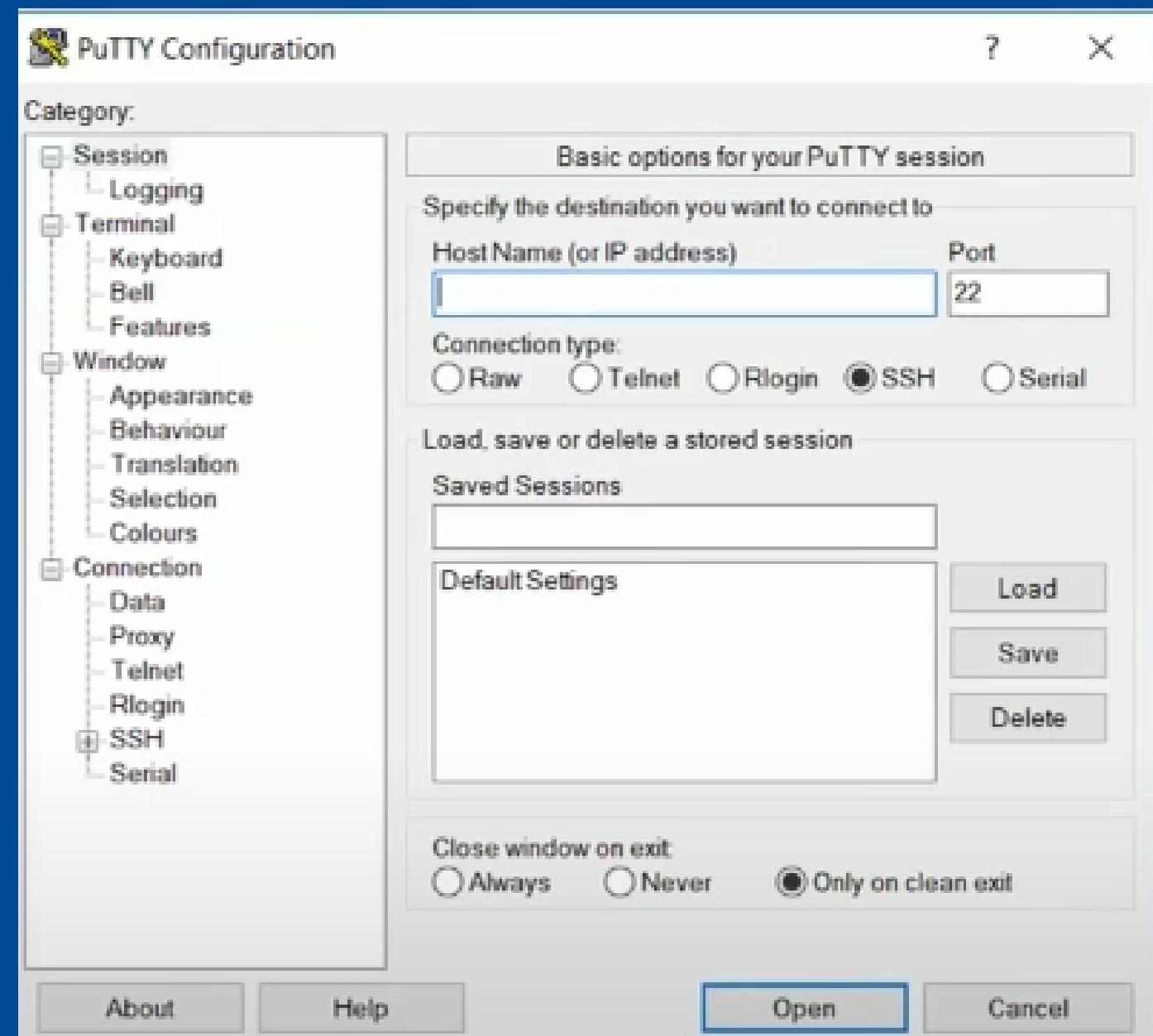


RASPBERRY PI

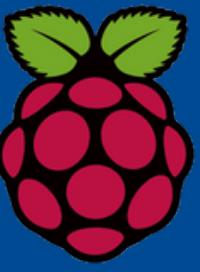


- Conexão Raspberry Notebook
- Passo 6: Precisamos instalar o programa PuTTY como intermediário para a conexão do Raspberry com o Notebook.

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



RASPBERRY PI



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



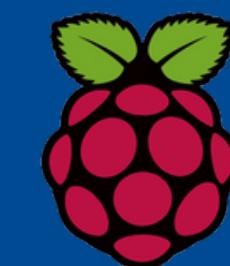
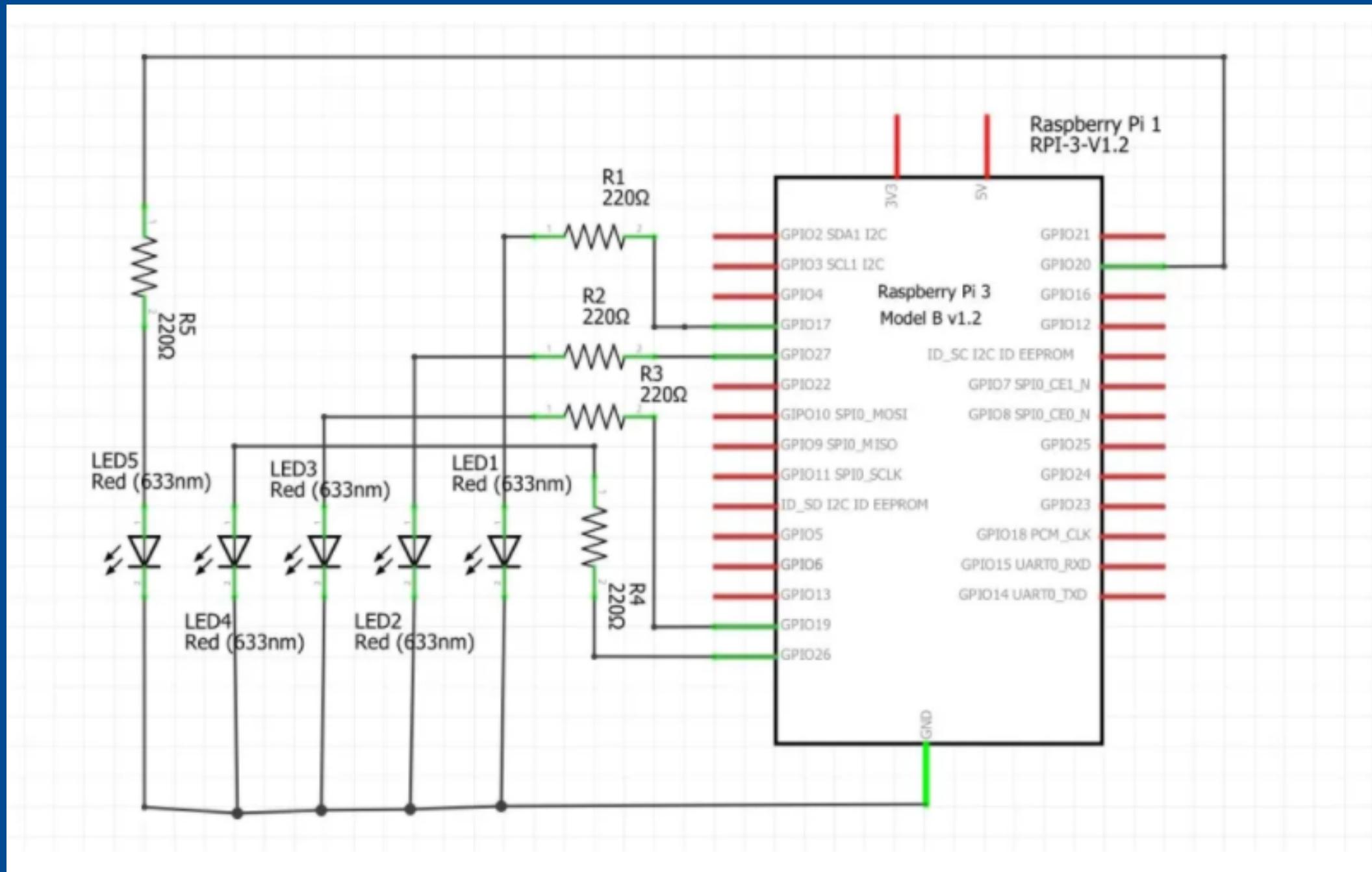
wpa_supplicant.conf - Bloco de notas

Arquivo Editar Formatar Exibir Ajuda

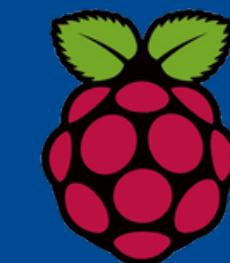
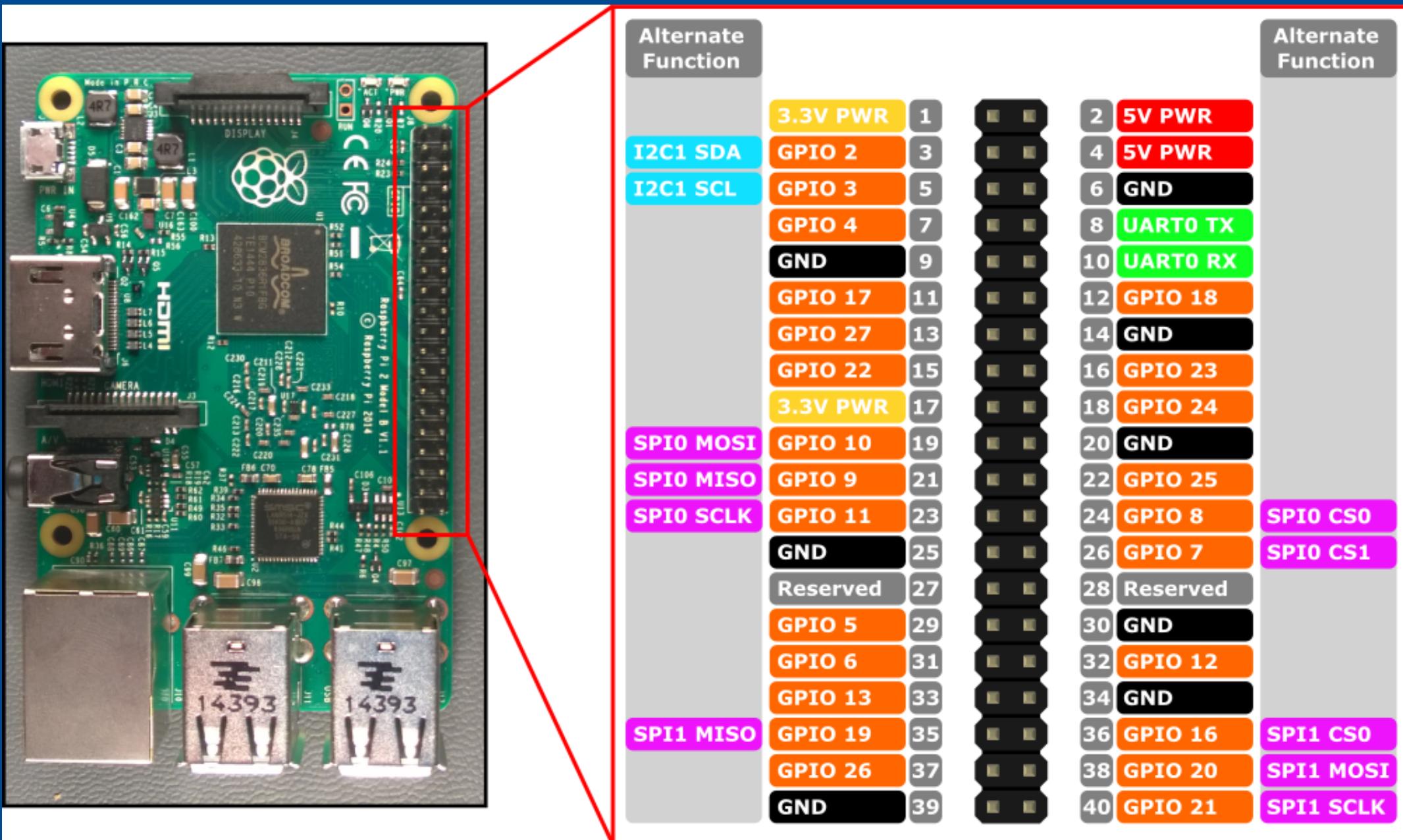
```
network={  
    ssid="Eletronite"  
    psk="1234"  
}
```

A screenshot of a text editor window titled 'wpa_supplicant.conf - Bloco de notas'. The menu bar includes 'Arquivo', 'Editar', 'Formatar', 'Exibir', and 'Ajuda'. The main content area contains a configuration snippet for a wireless network:

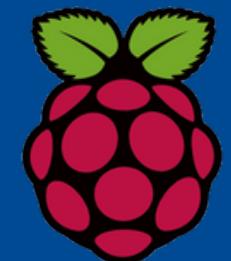
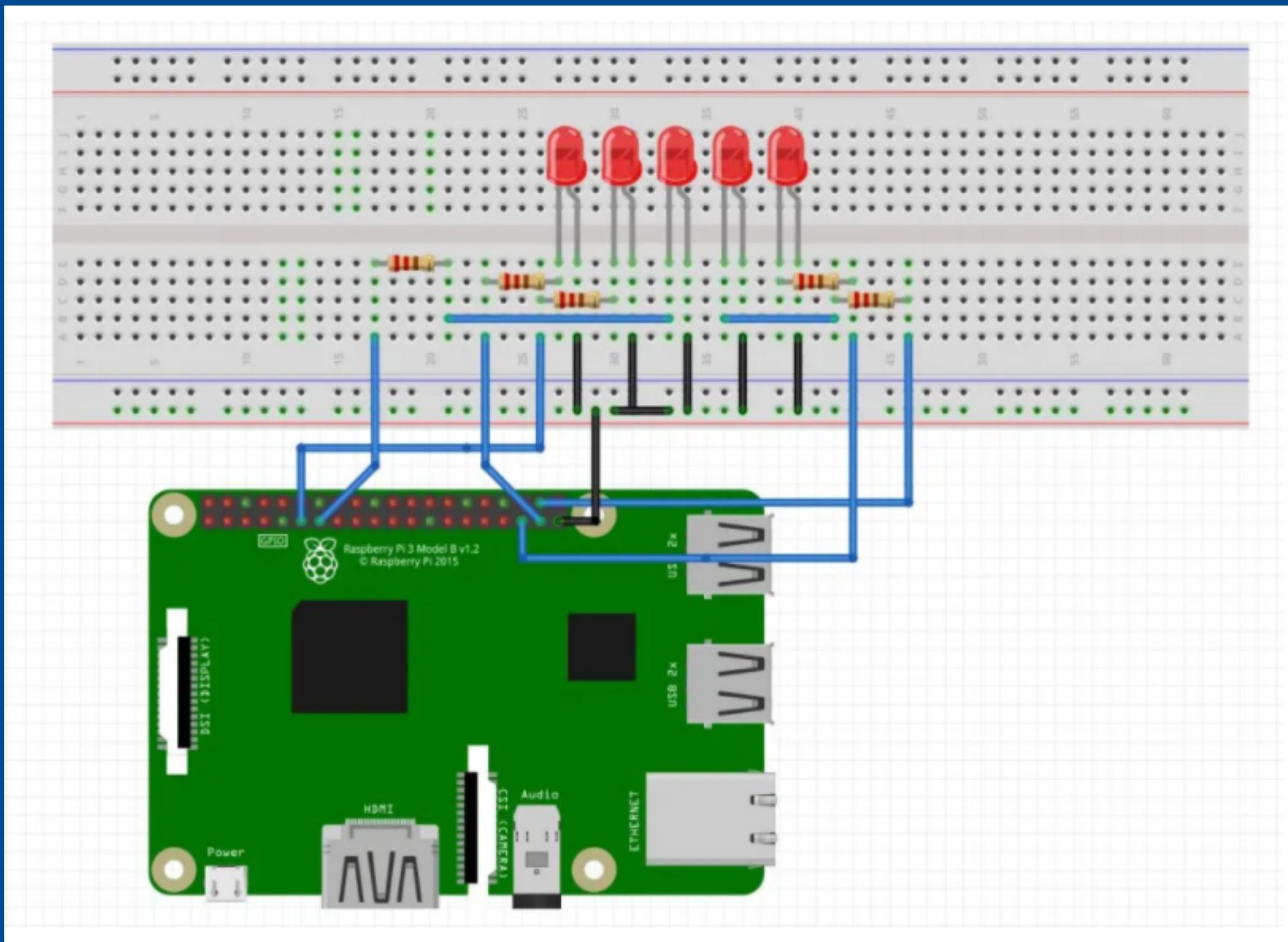
Circuito 02: Raspberry Pi e LED's



Circuito 02: Raspberry Pi e LED's



Circuito 02: Raspberry Pi e LED's



Obrigada!

