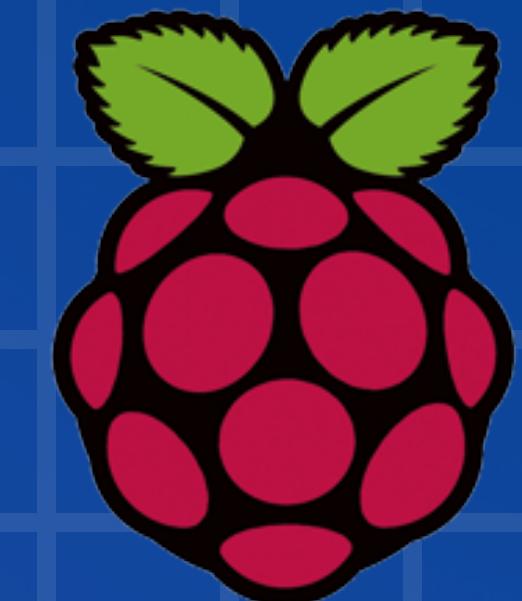
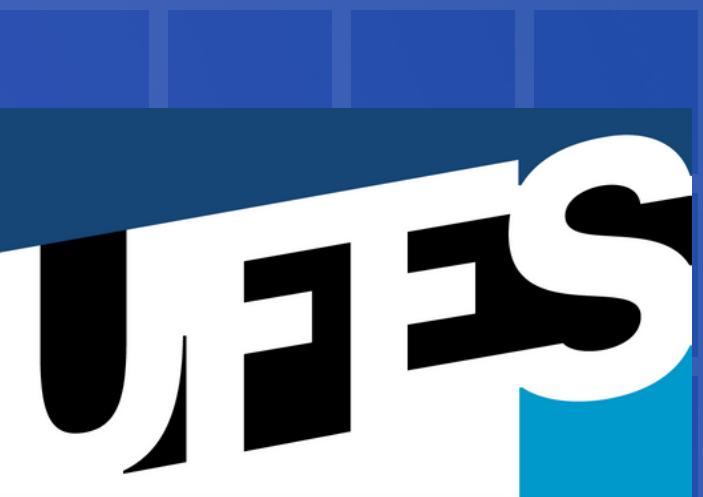


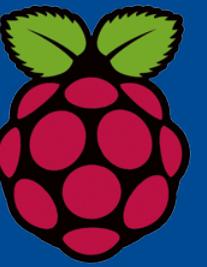
CONSUMO SUSTENTÁVEL DE ENERGIA EM
AMBIENTES ESCOLARES: INICIATIVAS FEMININAS

OFICINA RASPBERRY PI

Elen Antunes, Júlia Thompson e Luany Toniato



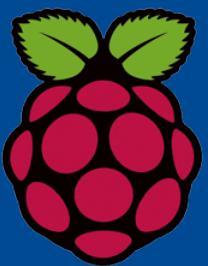
RASPBERRY PI



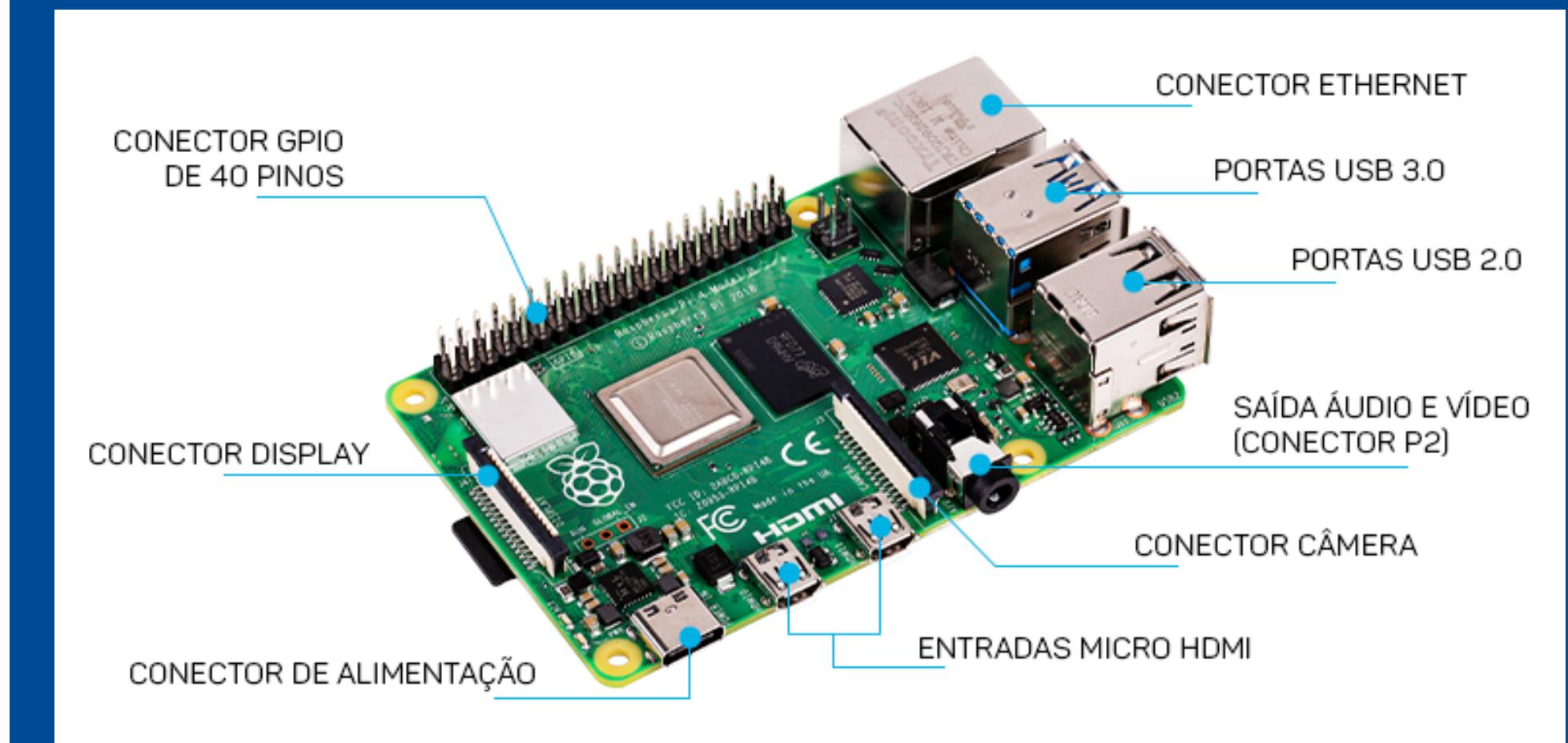
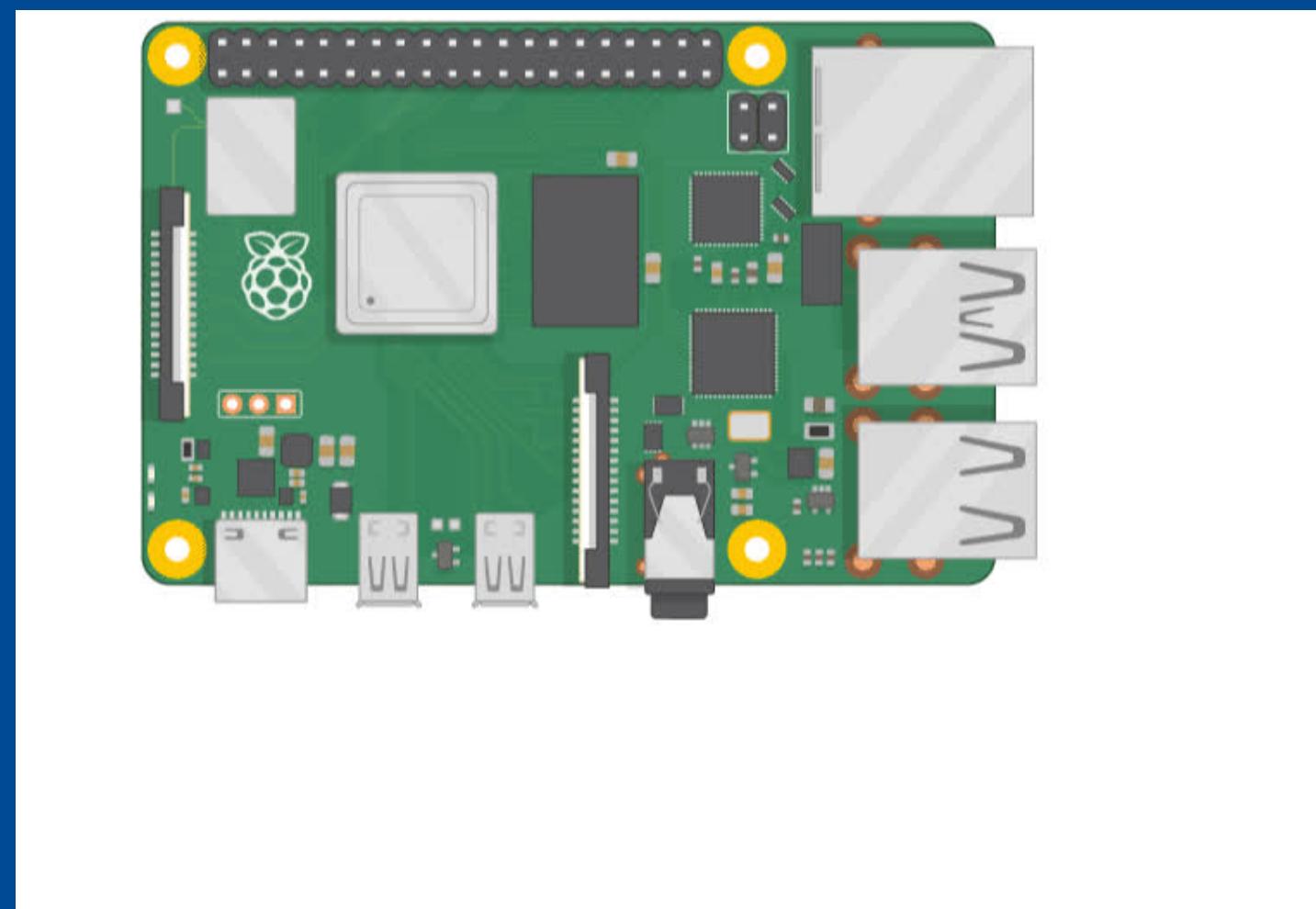
- O que é?

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.

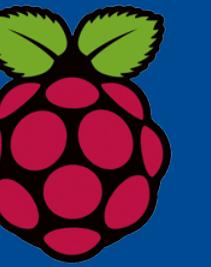
RASPBERRY PI



- O que é?



RASPBERRY PI

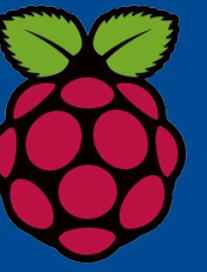


- Primeiros Passos

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.

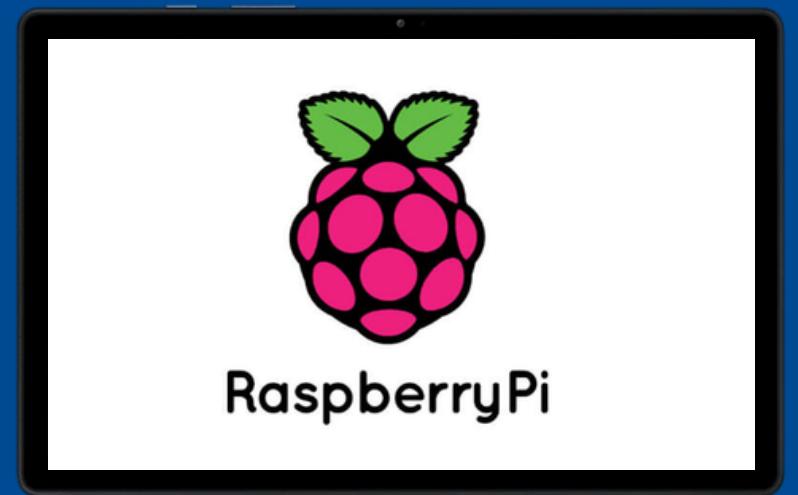
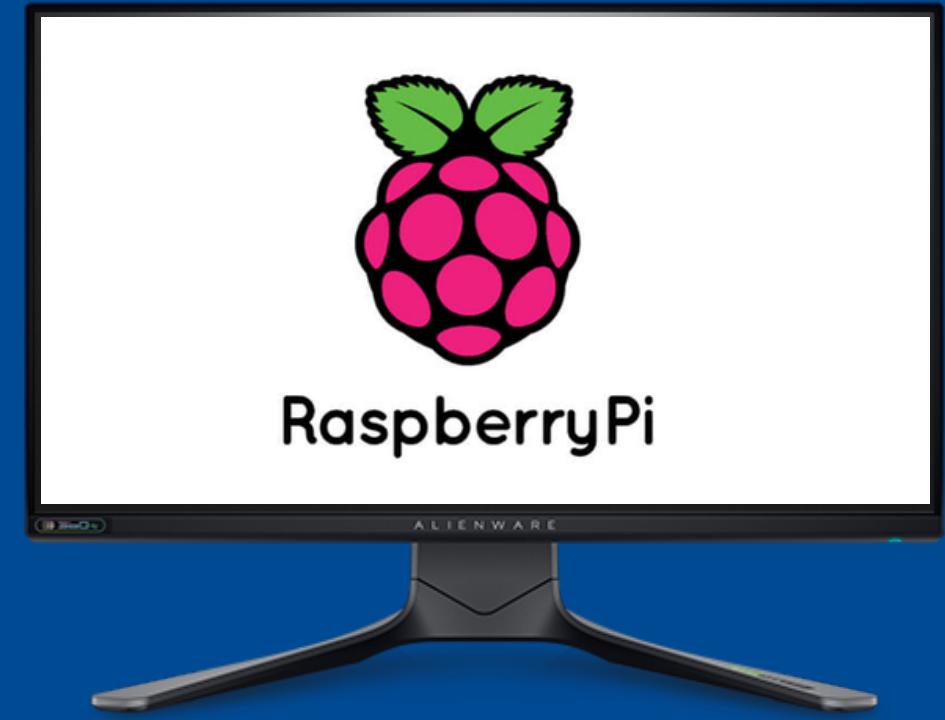
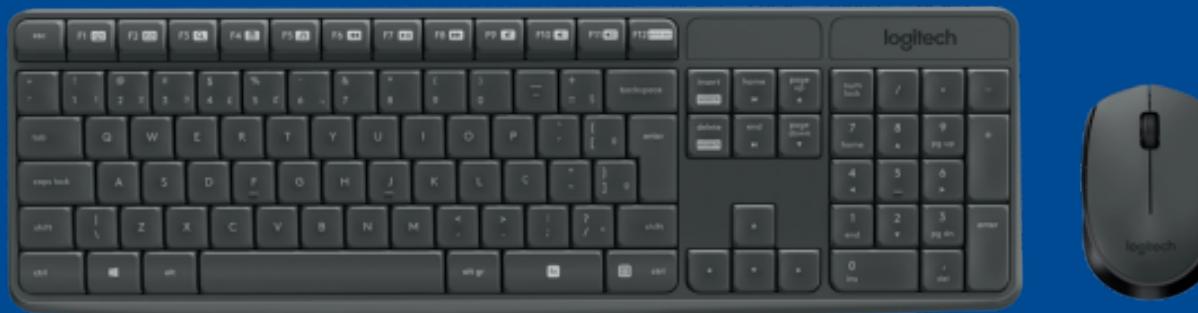


RASPBERRY PI

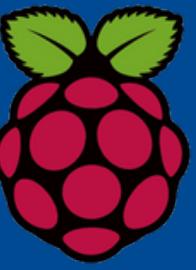


- Periféricos

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

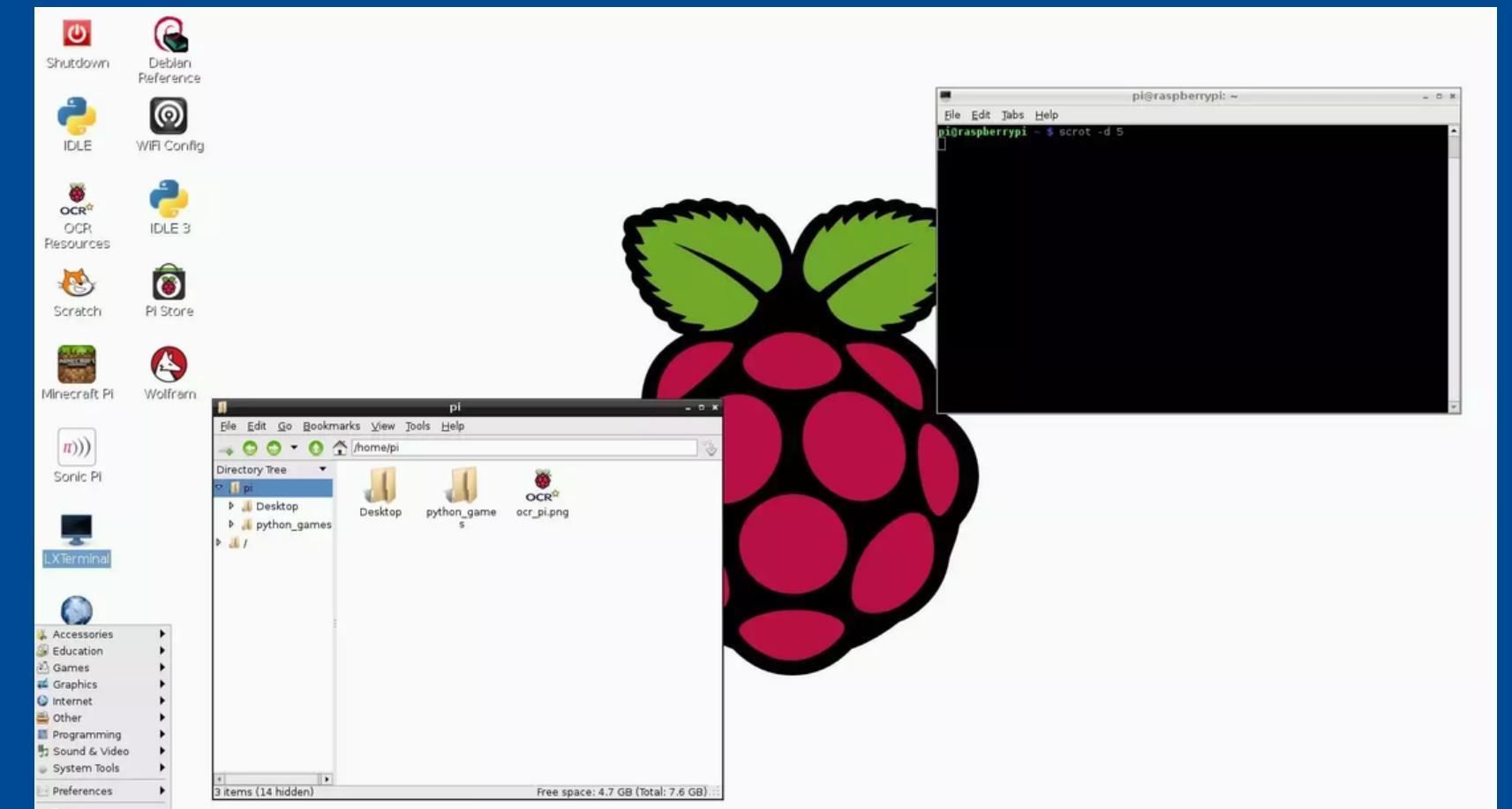


RASPBERRY PI

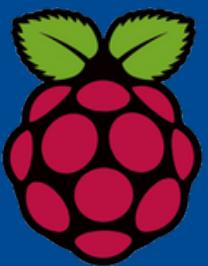


- Instalando o Sistema operacional

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.

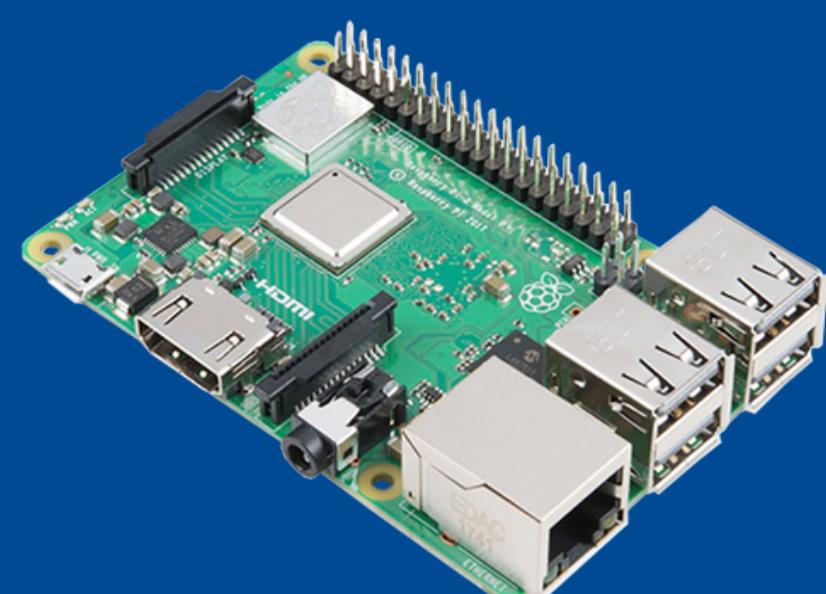


RASPBERRY PI

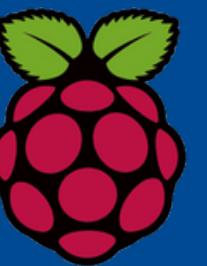


- Instalando o Sistema operacional

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.



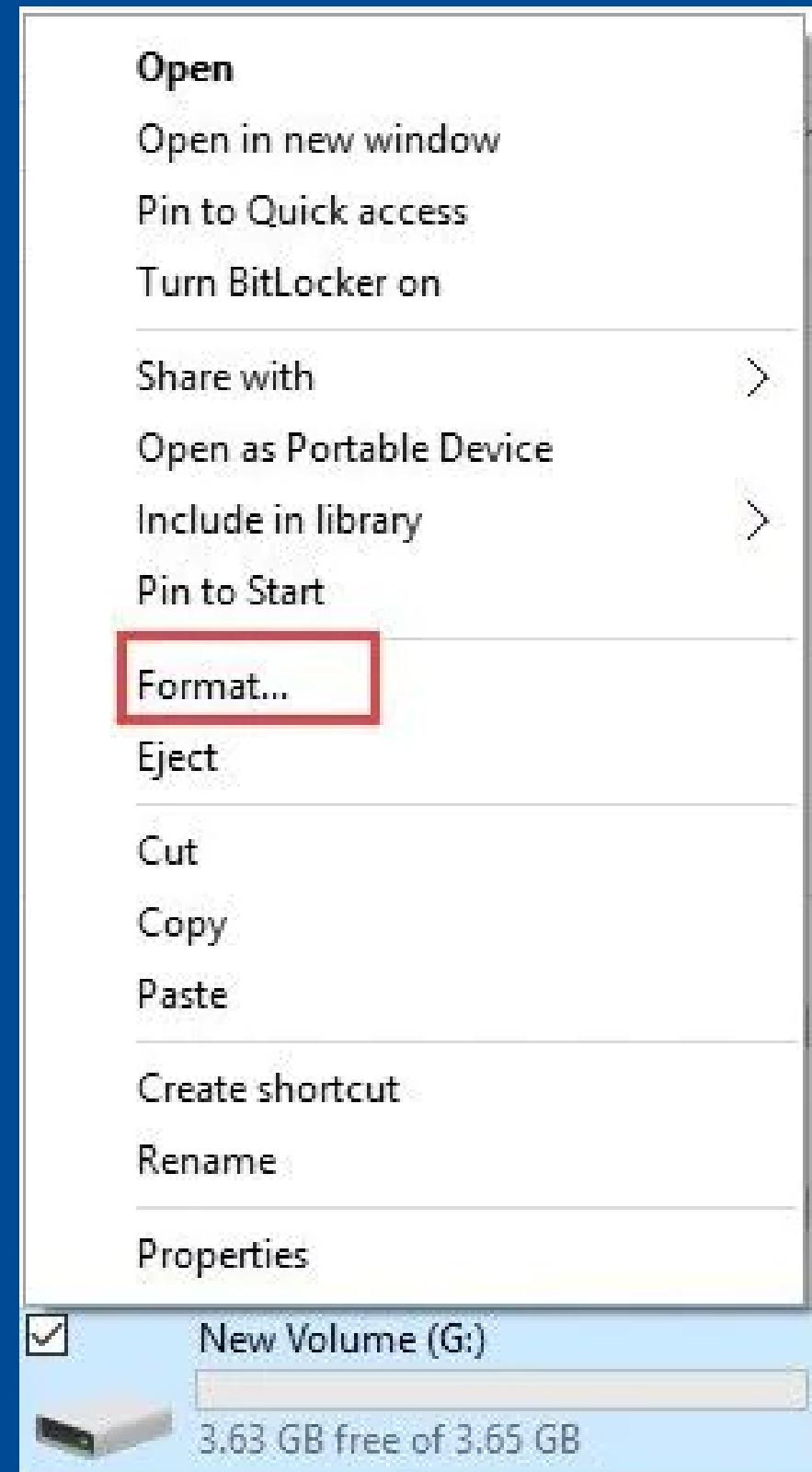
RASPBERRY PI



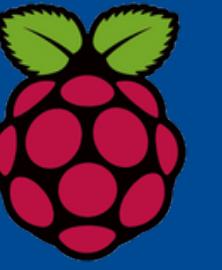
- Instalando o Sistema operacional

Passo 1: Formatar o cartão microSD

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



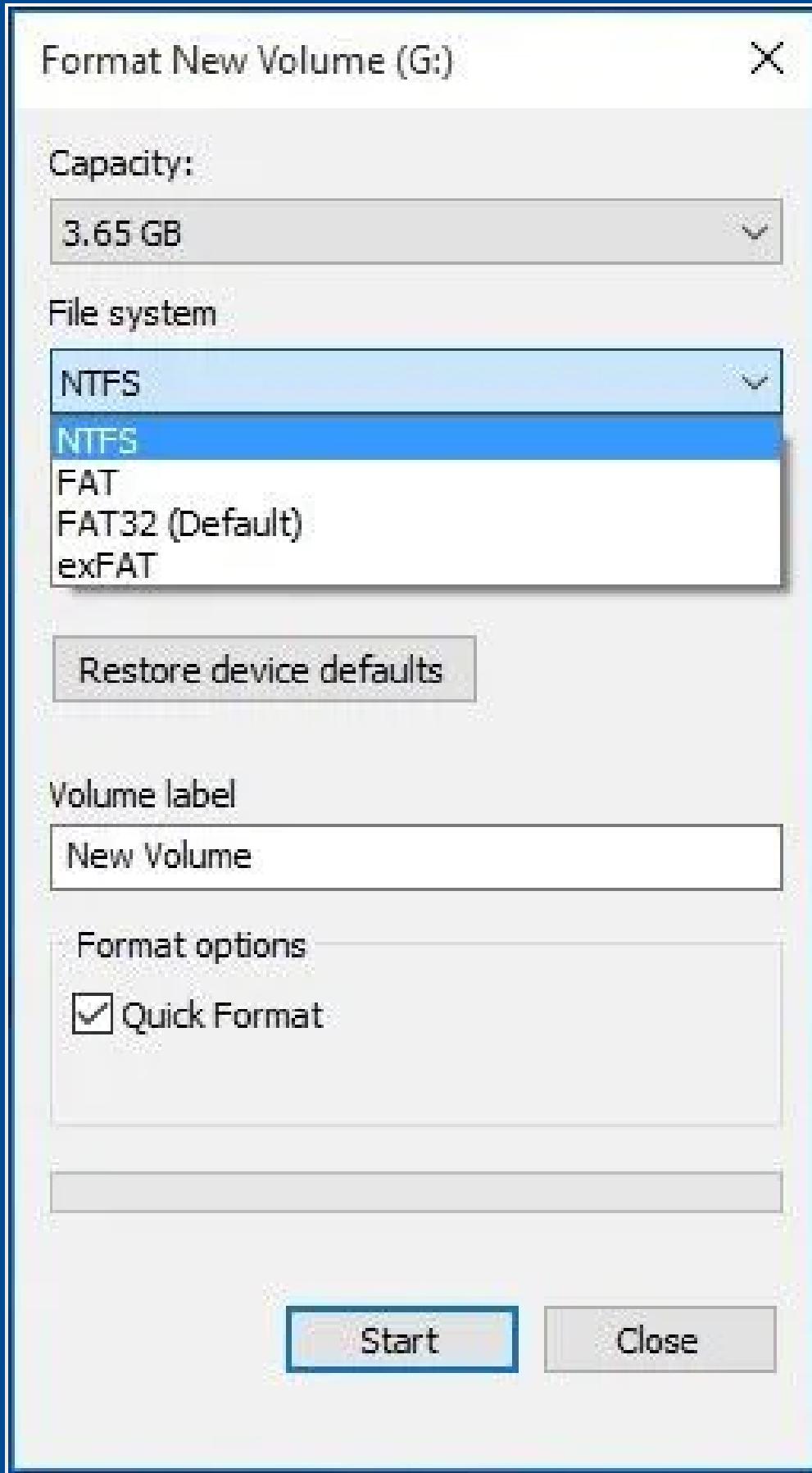
RASPBERRY PI



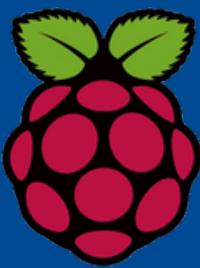
- Instalando o Sistema operacional.

Passo 1: Formatar o cartão microSD

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



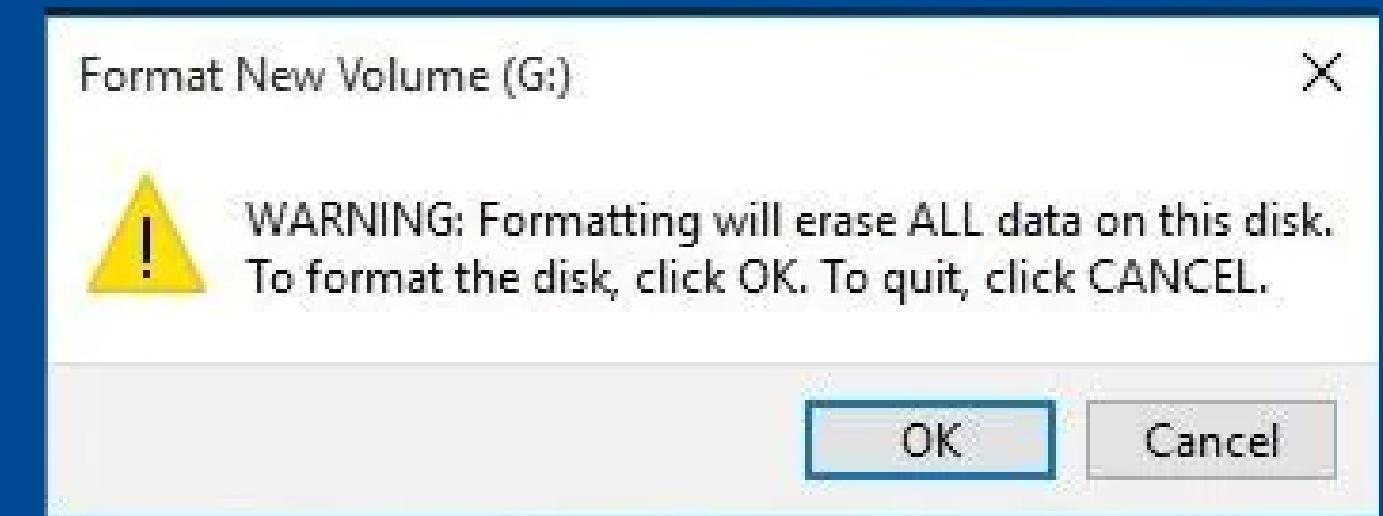
RASPBERRY PI



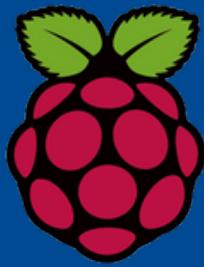
- Instalando o Sistema operacional

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 educational and programming tools like Python, Scratch, Sonic Pi, Java, and Mathematica. A note explains that the Raspbian with Desktop image is over 4GB and may require specific unzipping tools if it appears corrupt. Below this, there are two download options: "RASPBIAN STRETCH WITH DESKTOP" and "RASPBIAN STRETCH LITE". Each option includes a small image of a Raspberry Pi board, version information (April 2018), release date (2018-04-18), kernel version (4.14), and release notes (link). At the bottom of each section are "Download Torrent" and "Download ZIP" buttons. A red arrow points from the text "disponibilizado no próprio site Raspberry Pi." in the previous slide to the "Download ZIP" button for the Raspbian Stretch with Desktop image.

RASPBIAN

Raspbian is the Foundation's official supported operating system. You can install it with [NOOBS](#) or download the image below and follow our [installation guide](#).

Raspbian comes pre-installed with plenty of software for education, programming and general use. It has Python, Scratch, Sonic Pi, Java, Mathematica and more.

The Raspbian with Desktop image contained in the ZIP archive is over 4GB in size, which means that these archives use features which are not supported by older unzip tools on some platforms. If you find that the download appears to be corrupt or the file is not unzipping correctly, please try using [7Zip](#) (Windows) or [The Unarchiver](#) (Macintosh). Both are free of charge and have been tested to unzip the image correctly.

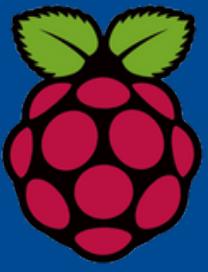
RASPBIAN STRETCH WITH DESKTOP
Image with desktop based on Debian Stretch
Version: April 2018
Release date: 2018-04-18
Kernel version: 4.14
Release notes: [Link](#)

RASPBIAN STRETCH LITE
Minimal image based on Debian Stretch
Version: April 2018
Release date: 2018-04-18
Kernel version: 4.14
Release notes: [Link](#)

[Download Torrent](#) [Download ZIP](#)

SHA-256: 5a0747b2bfb8c8664192831b7dc5b22847718a1cb77639a1f3db3683b
df5d1b6

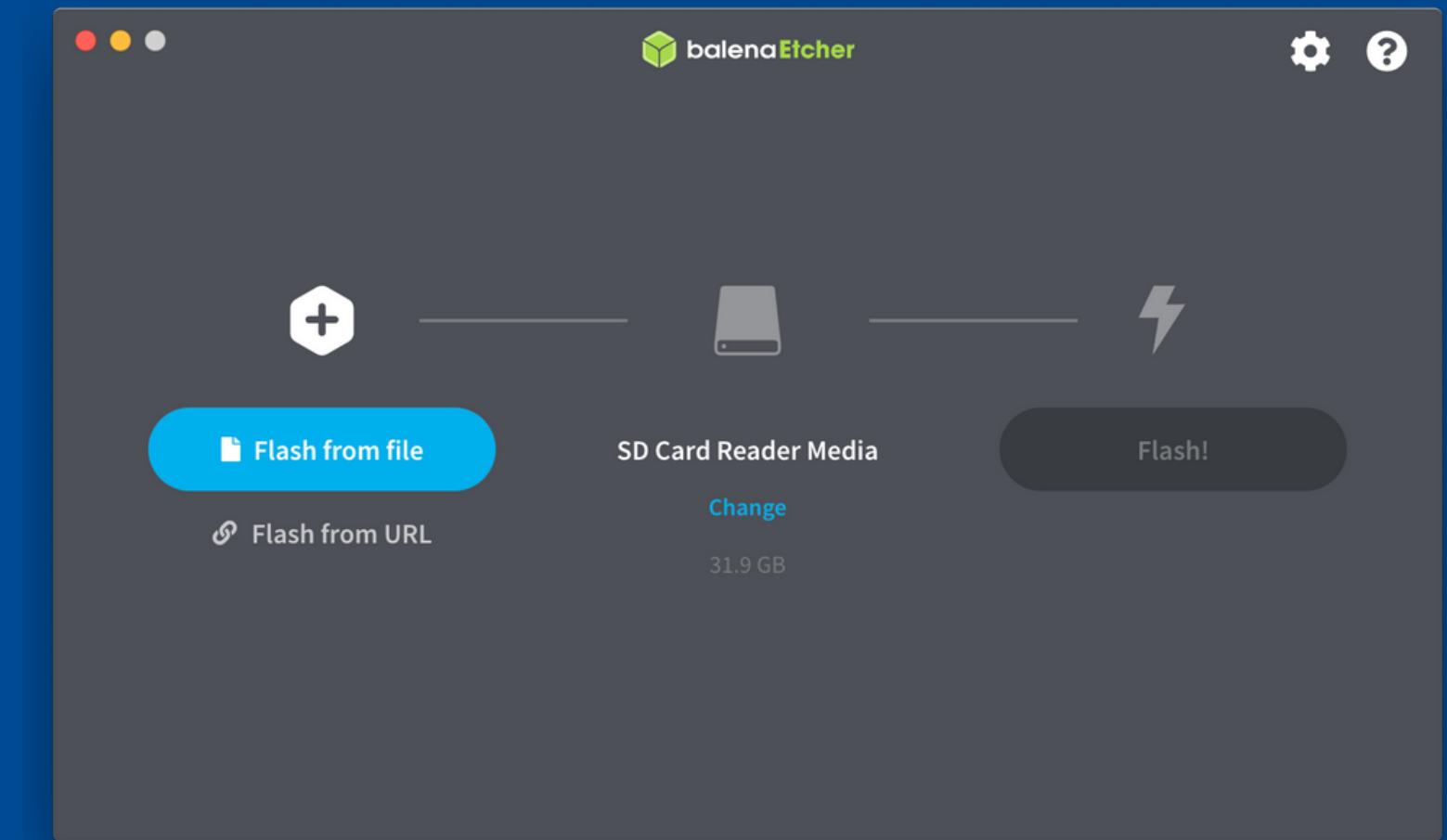
RASPBERRY PI



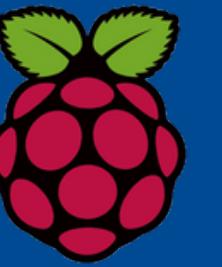
- Instalando o Sistema operacional

- 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/>



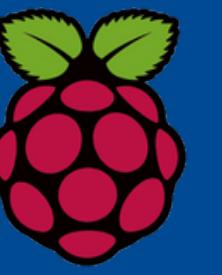
RASPBERRY PI



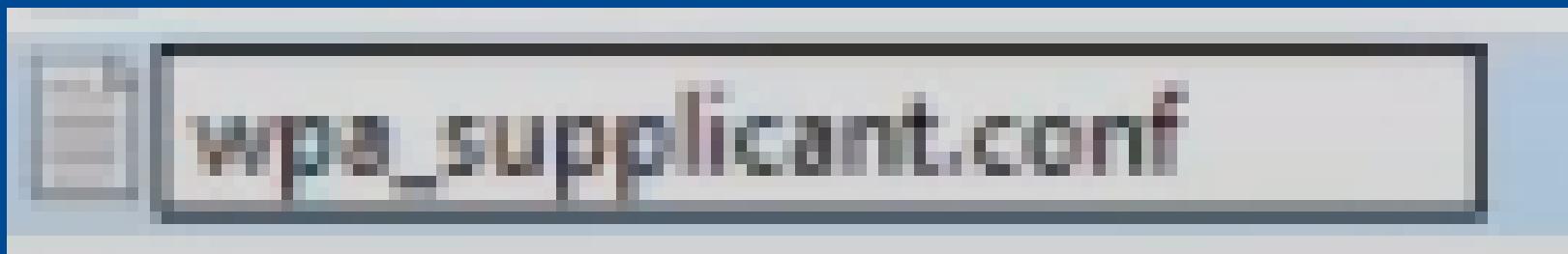
- Instalando o Sistema operacional
- Passo 4: Terminado o envio do Sistema operacional para o cartão microSD vamos inserir na Raspberry e já estamos prontos para usa-la.



RASPBERRY PI



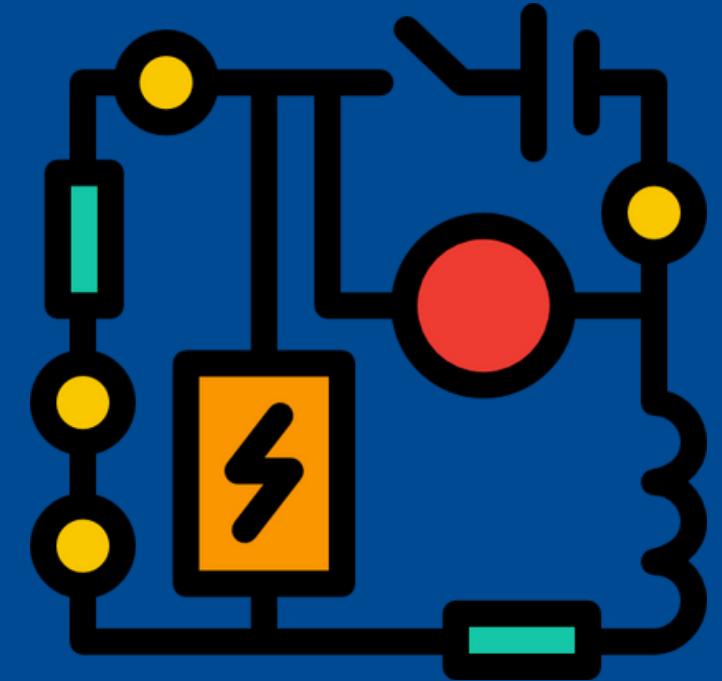
- Conexão Wi-fi
- Passo 5: Vamos criar uma pasta dentro do microSD para conectar o wi-fi na Raspberry.

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 the following configuration code:

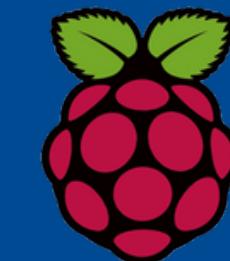
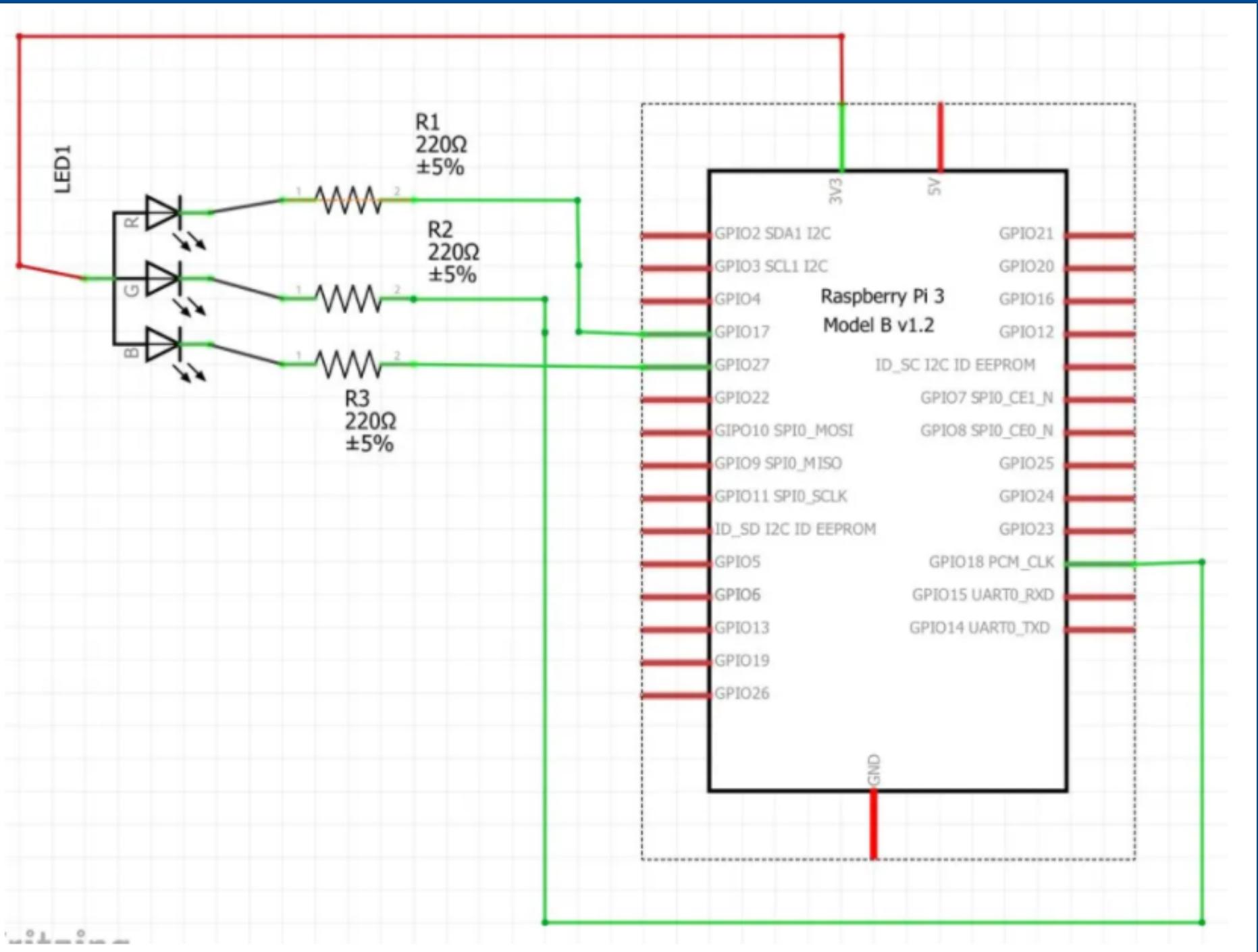
```
network={  
    ssid="Eletronite"  
    psk="1234"  
}
```

Montagem de Circuitos

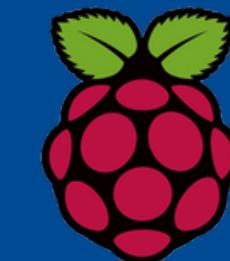
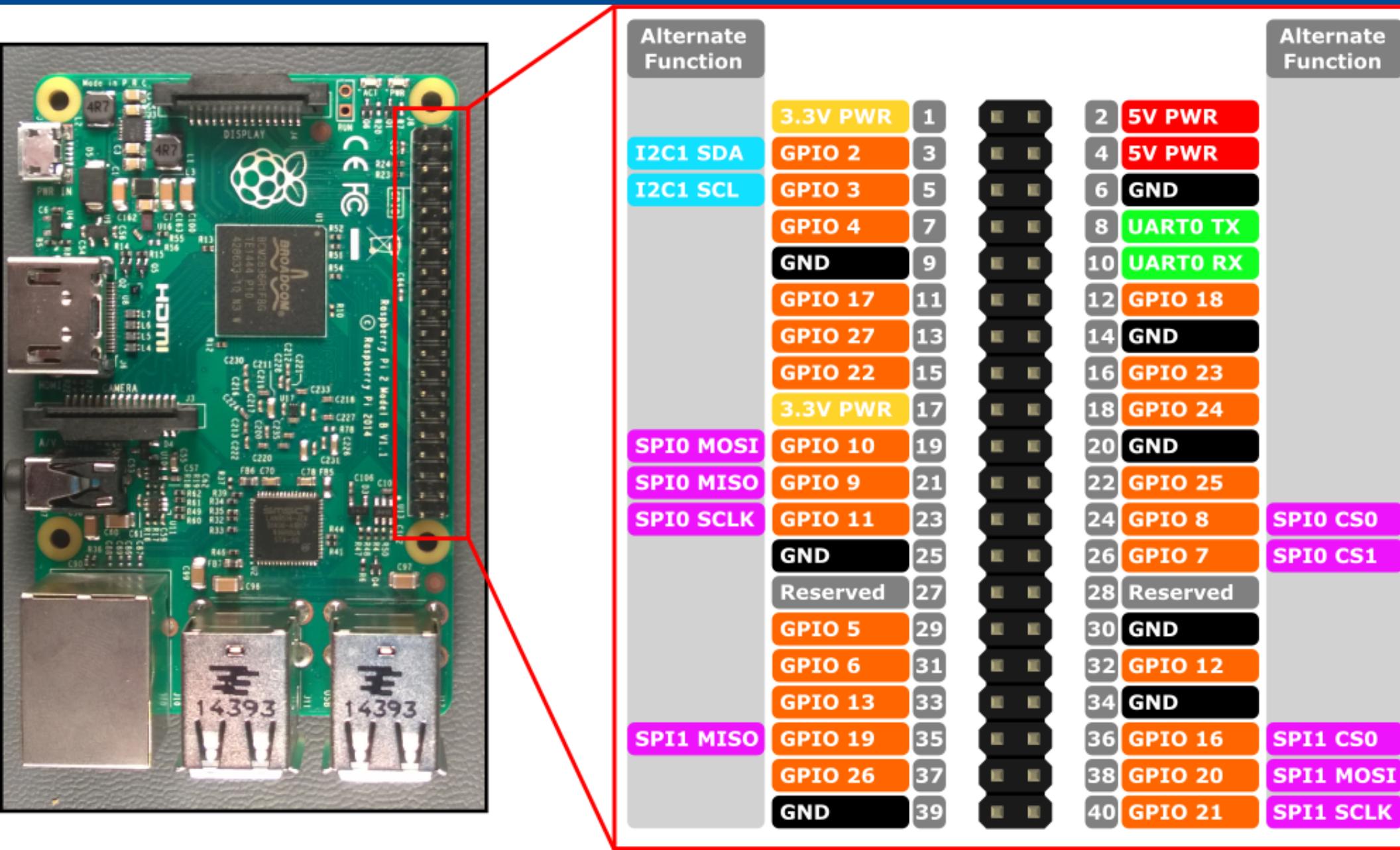
Preparamos circuitos para aprendermos a fundo
colocando a mão na massa!



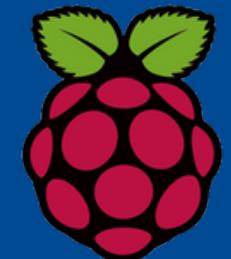
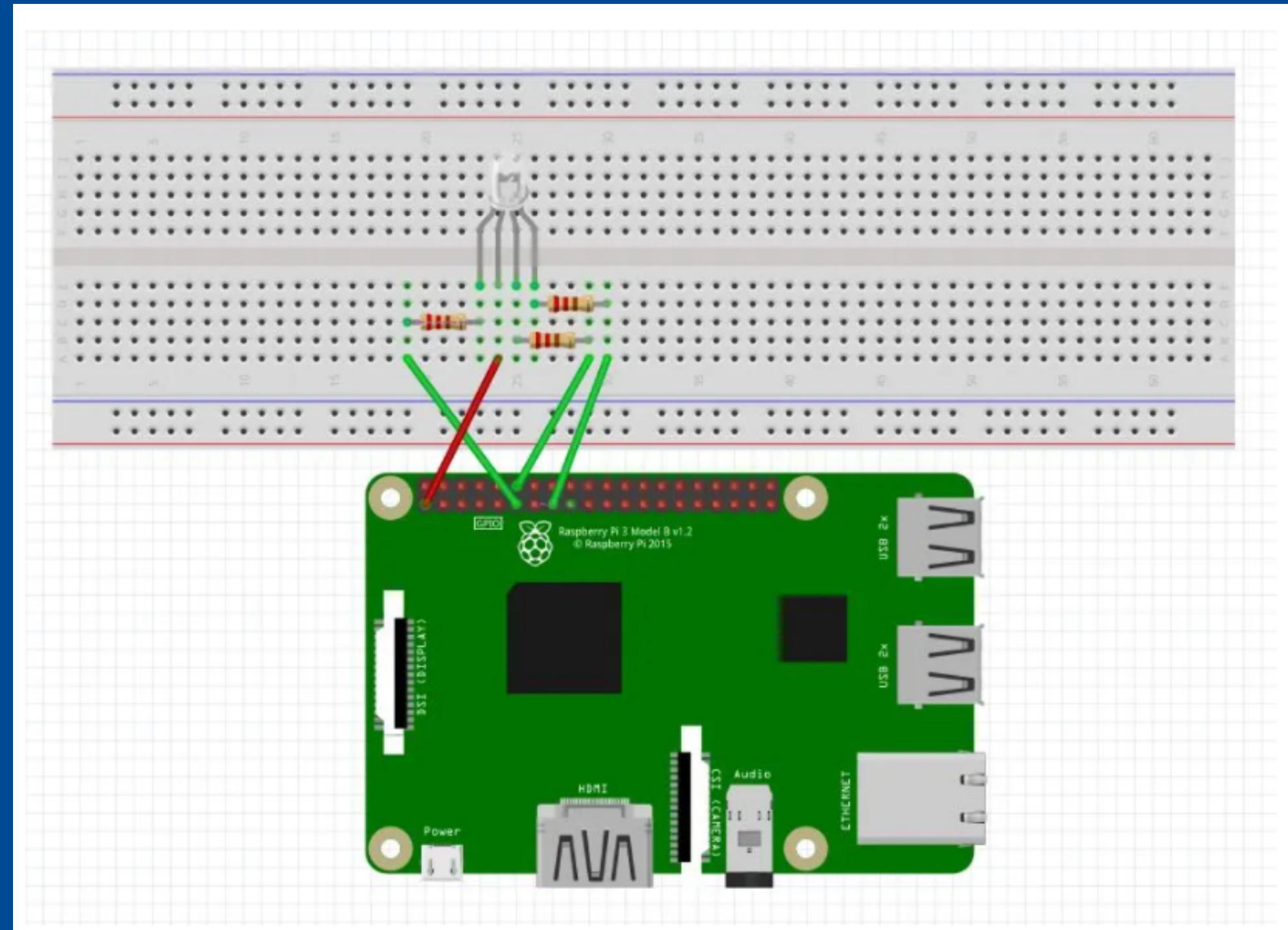
Circuito 01: Raspberry Pi e LED RGB



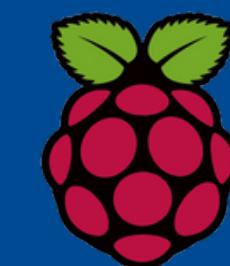
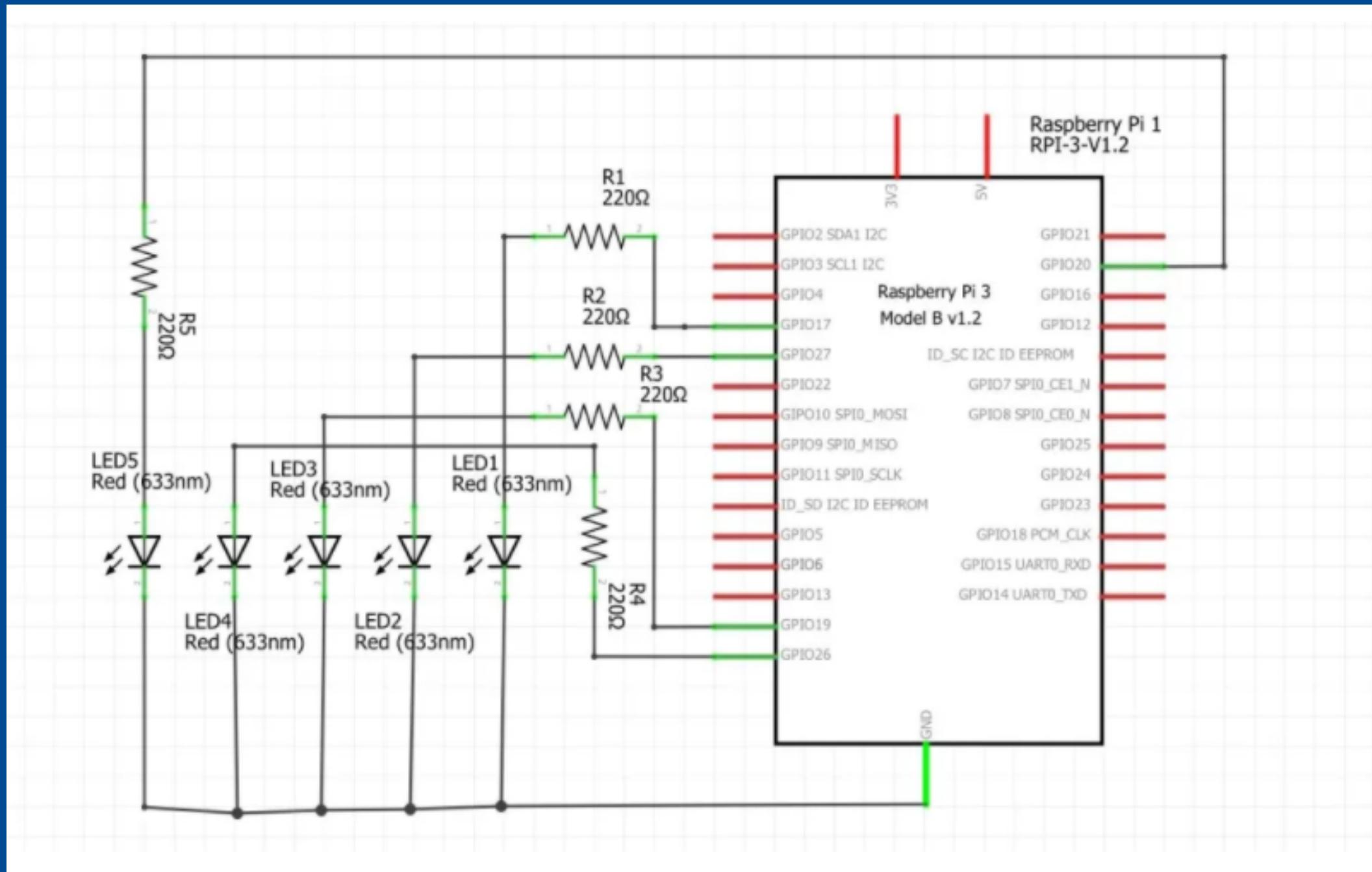
Circuito 01: Raspberry Pi e LED RGB



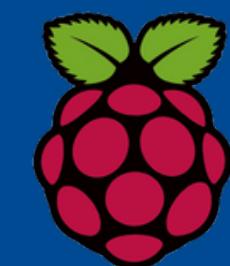
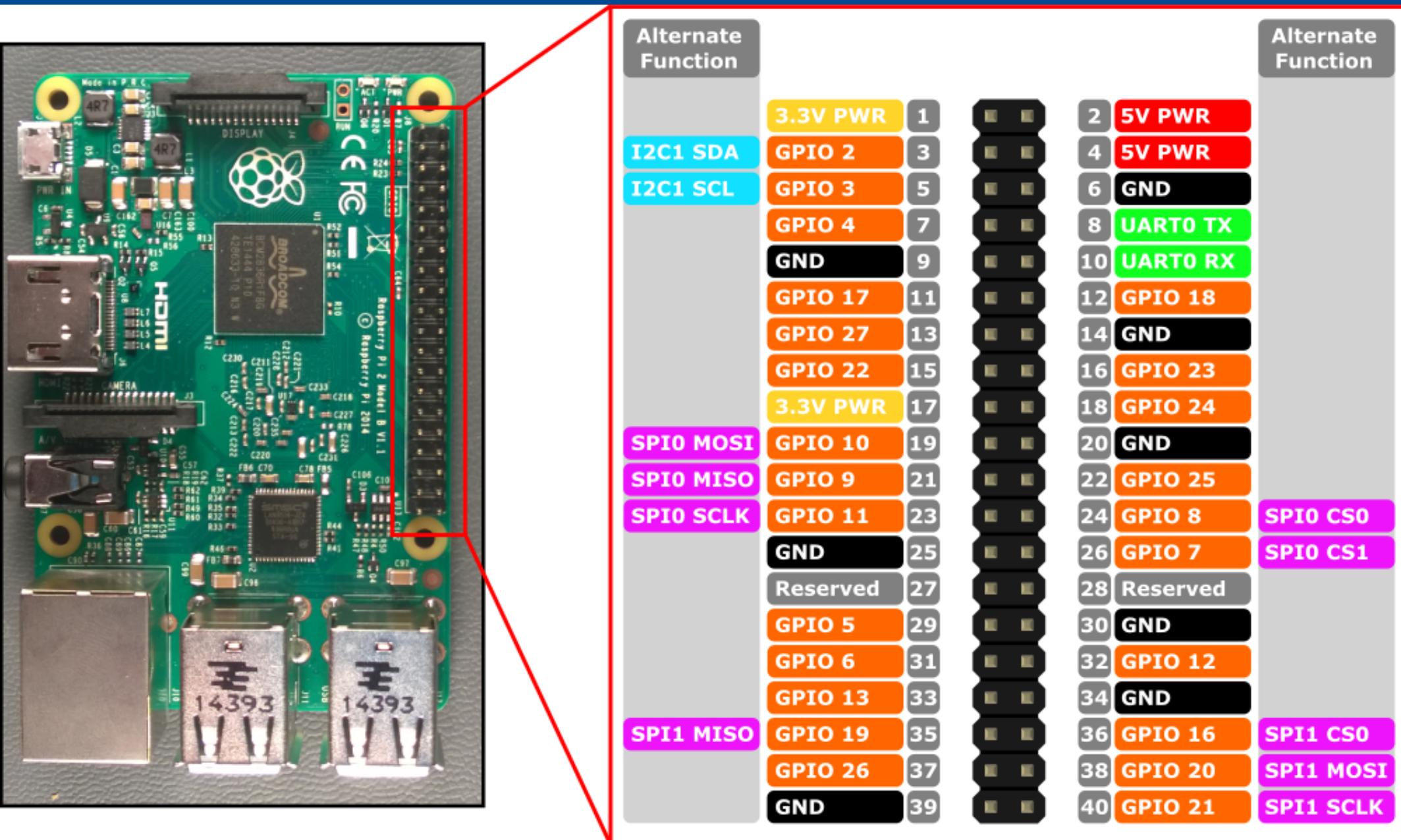
Circuito 01: Raspberry Pi e LED RGB



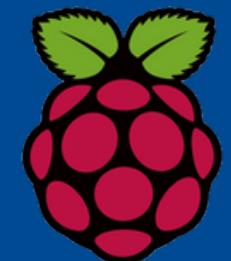
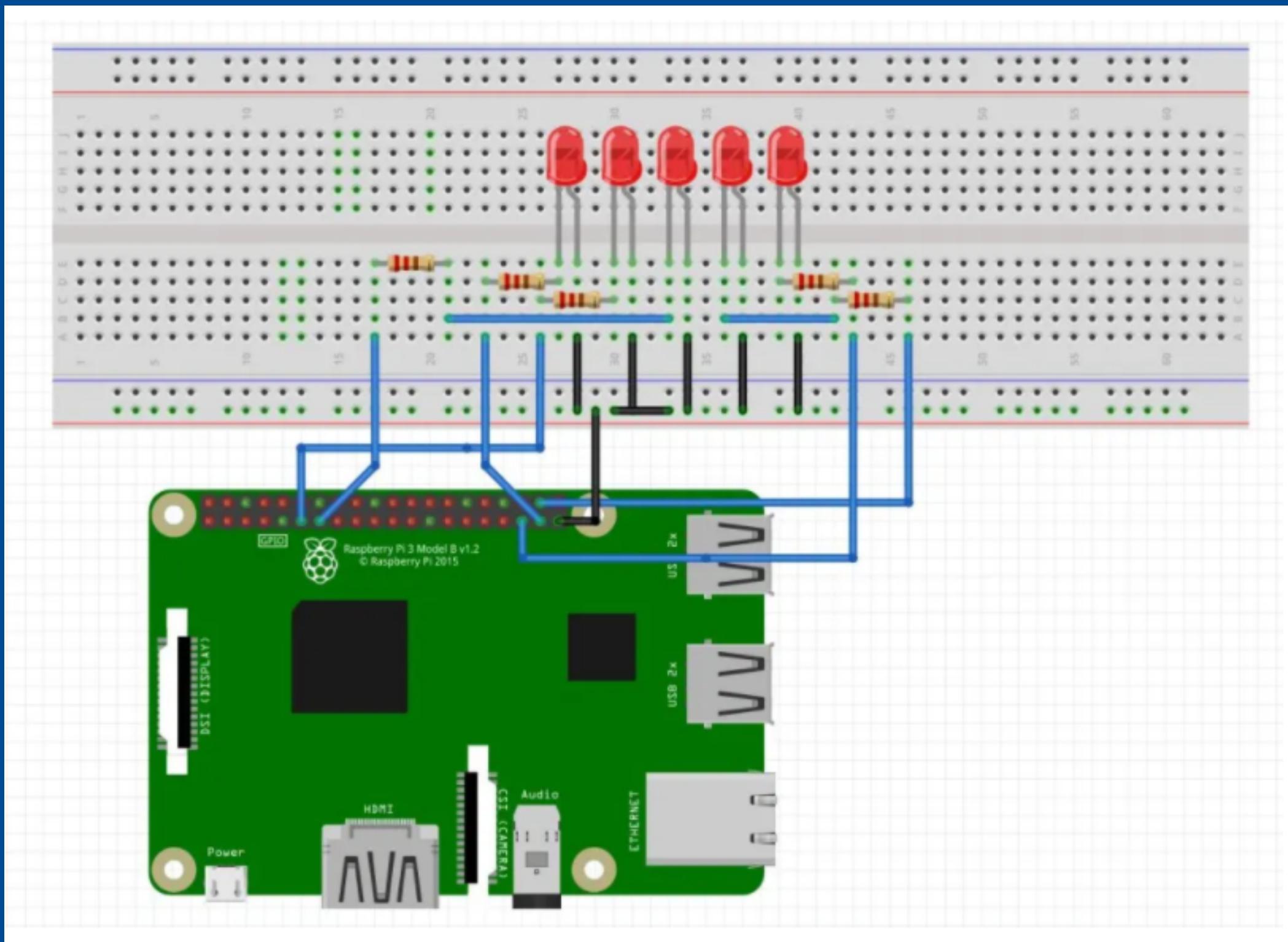
Circuito 02: Raspberry Pi e LED's



Circuito 02: Raspberry Pi e LED's



Circuito 02: Raspberry Pi e LED's



Obrigada!

