



Raspberry Pi

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Agenda

- What is a Raspberry Pi?
- Raspberry Pi security
- The potential of a Raspberry Pi



Learning Objectives

- Identify hardware components on the Raspberry Pi
- Describe the role each component plays to secure device

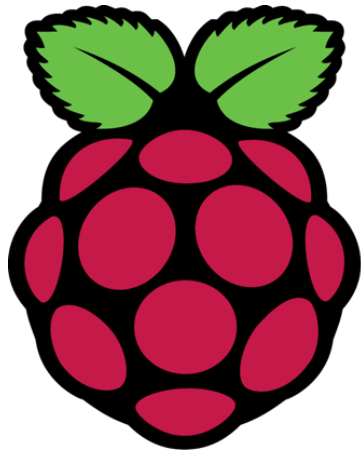
Raspberry Pi is...





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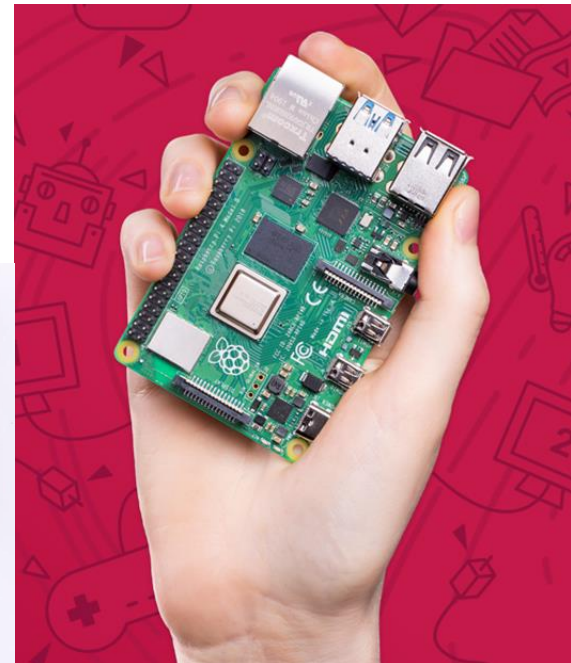
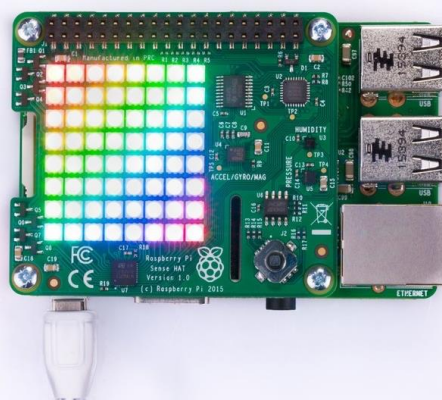
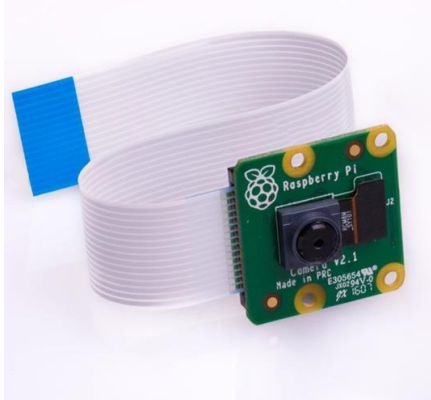
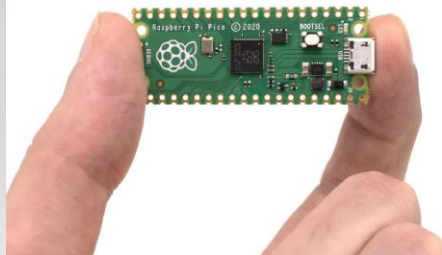
- Raspberry Pis are low-cost, high-performance single board computers
- The Raspberry Pi Foundation has a goal to put the power of computing and digital making into the hands of people all over the world



Raspberry Pi[®]

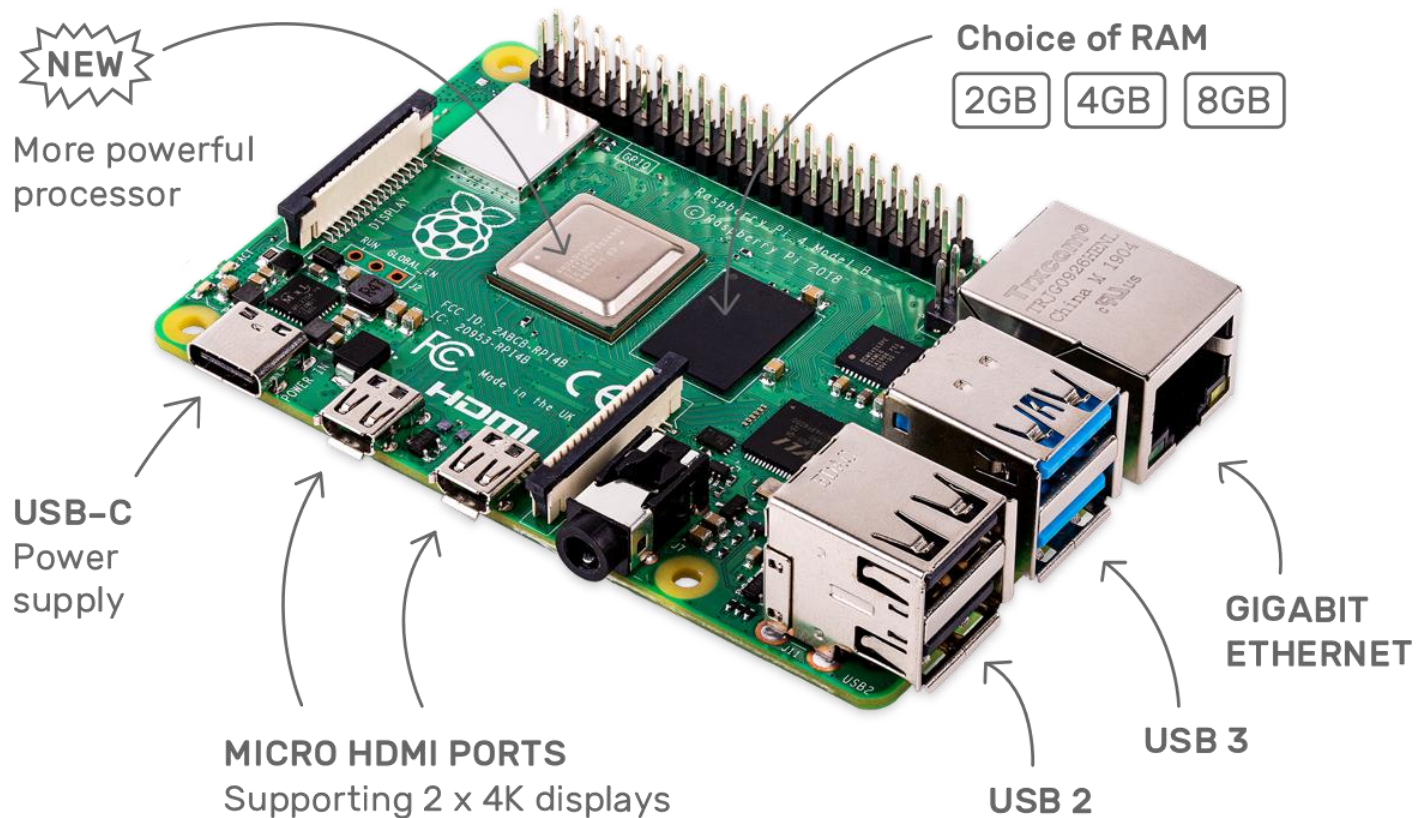
Raspberry Pi is...

- There are currently 15 available Raspberry Pi computers and microcontrollers
- There are currently 26 available Raspberry Pi accessories sold on the Raspberry Pi website



Raspberry Pi is...

- We will be using a Raspberry Pi 4 Model B





Raspberry Pi Security

- While there are ways to heighten the security, Raspberry Pis are inherently quite secure
- The level of security that you need depends on what you are using the Raspberry Pi for
- Numerous components make the Raspberry Pi 4 Model B an effective piece of hardware
 - Broadcom BCM2711, Quad core Cortex-A72 (ARM v8) 64-bit SoC @ 1.5GHz
 - 2.4 GHz and 5.0 GHz IEEE 802.11ac wireless, Bluetooth 5.0, BLE
 - Gigabit Ethernet
 - H.265 (4kp60 decode), H264 (1080p60 decode, 1080p30 encode)
 - OpenGL ES 3.0 graphics
 - Micro-SD card slot for loading operating system and data storage
 - And much more!



The Potential of Raspberry Pi

- There are nearly endless possibilities in regards to what you can do with a Raspberry Pi. Here are some examples:
 - Use any TV as a computer monitor
 - Make a retro gaming console
 - Control a robot
 - Learn to program
 - Build a drone
 - Automate your home
 - Make a high-quality camera



Resources

- The Raspberry Pi Foundation
 - <https://www.raspberrypi.org>
- 25 fun things to do with a Raspberry Pi
 - <https://www.cnet.com/how-to/25-fun-things-to-do-with-a-raspberry-pi/>
- Supercomputing with Raspberry Pi
 - <https://www.raspberrypi.org/blog/supercomputing-with-raspberry-pi-hackspace-41/>
- Raspberry Pi: 4 favorite projects – with a security flavor
 - <https://enterprisersproject.com/article/2021/3/4-raspberry-pi-projects-security>



Activity



See the Raspberry Pi handout and complete the activity