

Parts List for CompSci 240, C and Assembly Programming

Fall 2020

Required - overview

Raspberry Pi model 3B, 3B+, or 4B
16 GB - 32 GB micro SD card, and a USB adapter
power supply (suitable for Raspberry Pi model)
Ethernet cable - 3 to 4 feet long
USB 3.0 - Gigabit Ethernet adapter

The 3B, 3B+, and low-end 4B Raspberry Pi (RPi) models have 1 Gigabyte of RAM - this is plenty for the course. Higher-end RPi 4B models go to 2, 4, or 8 GB (for about \$15 per increment), but are not necessary.

Kits are available that include the appropriate power supply, memory card, perhaps a case and heatsinks, and possibly other bits. These kits are not necessary but may be a convenient way to purchase most of the needed parts.

Ethernet cable: either a "straight-through" or "crossover" cable will work. It should be long enough to reach between your RPi and your laptop/desktop computer.

Display, keyboard, mouse - these are assumed to come from a computer you already have, which can be running Linux, MacOS, or Windows as preferred

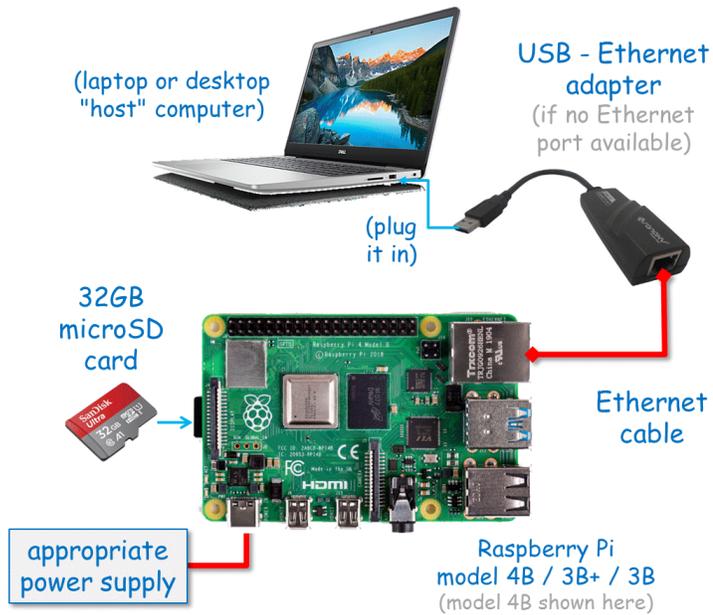
Saturday, August 15, 2020 - current Amazon items

This is a list of reasonably-priced items that I found by searching the Amazon website. I am looking for items that have 1- or 2-day delivery available. You may be able to do better if you shop around.

- **\$44.99** - Raspberry Pi 4B (2GB version):
<https://www.amazon.com/seeed-studio-Raspberry-Computer-Workstation/dp/B07W3MD2RR/>
- **\$ 5.36** - Power supply, also includes case, fan, and heatsinks:
<https://www.amazon.com/Smraza-Raspberry-Acrylic-Heatsinks-Compatible/dp/B07VFFTJG9/>
- **\$13.99** - USB 3.0-Ethernet adapter:
<https://www.amazon.com/Network-Adapter-CableCreation-Ethernet-Supporting/dp/B013G4C8RE/>
- **\$ 3.71** - Ethernet cable, 5 feet long:
<https://www.amazon.com/Monoprice-Flexboot-Ethernet-Patch-Cable/dp/B00AJHC926/>
- **\$ 8.49** - 32GB microSD card:
<https://www.amazon.com/SanDisk-Ultra-microSDXC-Memory-Adapter/dp/B073JWXGNT/>
- **\$ 7.99** - USB microSD card reader:
<https://www.amazon.com/UGREEN-Reader-Portable-Adapter-Windows/dp/B0779V61XB/>
Needed only for putting the operating system image onto the microSD card.

Total: \$84.53 plus tax and shipping.

Headless setup components



Five basic parts:

- **USB-Ethernet adapter**
 - » if "host" computer doesn't have an Ethernet port
- **Ethernet cable**
 - » 3 - 5 feet should be long enough
- **Raspberry Pi**
 - » model **4B**, **3B+**, or **3B**
- **microSD card**
 - » 32 GB is plenty
- **power supply**
 - » 3 Amp or 2.5 Amp, depending on the Raspberry Pi

Remarks

- If you already have a Raspberry Pi 3B or 3B+, that's plenty. You probably want another microSD card, as the software we will use is not the standard distribution. You'll also need the Ethernet-USB adapter and an Ethernet cable.
- A Raspberry Pi Model B is **not** a Raspberry Pi model 3B+. Make sure you get the 3rd-generation Model 3 or newer!
- "Bundles" are available that include a power supply, a case, heat sinks, and other combinations. Shop around for a good deal, but pay attention to any customer reviews.
- No textbook purchase is required. There are free online materials available (references provided in class).
- The default Raspbian software for the Raspberry Pi is adequate to start with but requires configuration and a TV/monitor, keyboard, and mouse.
- A preconfigured 64-bit software load will be provided for download and "burning" onto your microSD card.

Optional

- Raspberry Pi case suitable for the RPi model you have
- Heatsinks for Raspberry Pi components
- Second microSD card

NOT Needed

This setup is not like the standard Raspberry Pi configuration. The following parts are used for the standard "Raspbian" distribution on a Raspberry Pi, but are NOT needed for this course. You may want them if you wish to do other things with your Raspberry Pi, or you may already have them.

- The "Raspbian" or "Noobs" operating system, on a microSD card.
- HDMI cable.
- HDMI-connected monitor or television.
- USB-connected keyboard and mouse.

Pricing - preferred version, June 2020

\$46	Raspberry Pi model 4B - any memory capacity (model 3B or 3B+ is acceptable, may be a few dollars less)
\$8	32 GB micro SD card (16 GB is acceptable)
\$8	microSD - USB adapter
\$10	3 Amp USB-C power supply for Raspberry Pi 4B <i>or</i> 2.4 Amp micro-USB power supply for models 3B, 3B+
\$7	Ethernet cable - 3 to 4 feet long (crossover or straight-through)
\$15	USB 3.0 - Gigabit Ethernet adapter
\$94	approximate total, not including tax or shipping charges

Pricing information as of June 2020. Amazon has all parts; shop around for lower prices, but be sure the part specifications are as shown here