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Chapter 1

Buying a Mac

Shopping for a Mac can leave you dazzled by a long list of features, acronyms, and assorted hoo-hah. This chapter is here to help explain what to look for and why while you shop, especially if this is your first Mac.

The best part? I wrote it in common English, with the smallest amount of technobabble possible. (That's my job!) In this chapter, you discover the tasks that your Mac can perform and the differences between hardware and software. You also find out about the various Mac models and what features and specifications to covet when shopping for a Mac.

Know What Your Mac Can Do

I would bet that you already know why you want a computer. You have an idea what you want to do with a Mac, but you may not know *all* the things you can do with a computer.

To help get you excited about owning a Mac, here's a (very) short list of only a few of the most popular uses for a computer these days. See whether any of these uses reflects what you want to do or you see any tasks that you want to learn more about:

- » **The internet:** You knew I would start with the web (home of pages like Google.com and Apple.com) and electronic mail (or email). Now you can also add online games, instant messaging (like the texts you send from your smartphone), social media (like Facebook and Instagram), shopping, banking, streaming audio (like Spotify), internet radio and video streaming (like Netflix) to the mix. The internet literally expands in front of your eyes, and your Mac can be your doorway to the online world.
- » **Digital media:** If your interest is digital media, such as photography, video, or music (making it or listening to it), you're in luck — your Mac comes with everything you need to get started.
- » **Data collection:** If genealogy is your passion — or collecting baseball cards or cataloging stamps — your Mac can help you enter, organize, and present your treasured information.
- » **Productivity stuff:** Oh, yes! You can compose documents, create spreadsheets, and build professional-looking presentations on your Mac with ease using the productivity applications that come with your Mac (which I cover in Part 3). You also can use productivity applications that you purchase separately, such as the popular Microsoft Office suite and free applications like Google Docs (both of which are available on the internet).

Remember, this list offers only a few high points. *The more time you invest learning about your Mac and the software that's available, the more you'll get from it.*

Understand Hardware and Software

First-time computer owners often become confused about what constitutes *hardware* and what should rightly be called *software*. It's time to clear things up!

In the computing world, *hardware* is any piece of circuitry or any component of your computer with a physical structure. Your Mac's *monitor* (the computer screen) is a piece of hardware, for example, as are your mouse or trackpad (the pointing device you use to direct your Mac's actions) and your keyboard. So are the components you normally can't see or touch (the ones buried inside the case), such as your Mac's internal drive. And even your computer's case is technically a piece of hardware, even though it's not electrical.

You can also expand your Mac with all sorts of new hardware. **Figure 1-1** illustrates a common piece of hardware you can connect to your Mac: an internet router that connects a fiber, DSL, or cable internet connection with a home network.



An internet router is a piece of hardware.

FIGURE 1-1

The other side of the computing coin is the software you use. *Software* refers to programs (also called *applications*) that you interact with onscreen. Examples include a word processing application that displays your typing and a chess program that enables you to move pieces onscreen. **Figure 1-2** shows Apple's Photos image editor, a photo editing app (or program) that helps you see and organize digital photos.



FIGURE 1-2

Essentially, computer hardware and software work together so that you can do various tasks on your computer.



TIP

When you hear folks discussing a software *upgrade*, *patch*, or *update*, they're talking about (you guessed it) *another* piece of software! However, the upgrade-patch-update program isn't designed to be run more than once; rather, its job is to apply the latest features, fixes, and data files to a piece of software that's already running on your Mac, to update it to a new *version*. (Virtually all software developers refer to successive editions of their software, such as Version 1.5 or Version 3; the higher the version, generally the more features the software includes.) In Chapter 18, you find out how to maintain your Mac with updates.

Choose a Desktop or Laptop

First, some quick definitions: A *desktop* Mac is designed to sit on your desk and uses a separate monitor, keyboard, and mouse. Examples are the iMac, Mac Studio, Mac mini, and Mac Pro.

The iMac is a special case: iMacs are “all-in-one” computers, with the monitor and computer both housed in the same case to save space. However, the keyboard and mouse still reside separately from the “picture frame” case on these computers.

On the other hand, a *laptop* Mac is portable. You can carry the whole package with you because laptops have a built-in keyboard, a trackpad (the square pointing device located on the base of the laptop, near the keyboard, that takes the place of a mouse), and an integrated monitor. MacBooks are laptop computers. Laptops are as powerful as most of the Mac desktop line, and MacBook Air and Pro models offer desktop-type features, such as high-resolution graphics, speakers and microphones, and Wi-Fi (or wireless networking).

Figure 1-3 shows the different types of Mac computers you have to choose from.



FIGURE 1-3

So should you buy a desktop or a laptop Mac? If portability is a requirement — maybe your job or your lifestyle demands travel — you want to opt for a laptop, such as a MacBook Air or MacBook Pro.

If you're sitting on the fence and portability is a lesser requirement, I generally recommend getting a Mac desktop system, for these two important reasons:

- » **MacBooks are more expensive than desktop Macs of similar capability.** My friend, you pay dearly for that portability. If you don't need it, jump to the desktop side of the fence. It's that simple.
- » **Laptops usually cost much more to repair.** All Mac computers (both desktops and laptops) require the attention of a certified Apple repair technician if an internal component breaks. However, part of the MacBook portability stems from the computer industry practice of shoehorning all hardware onto one circuit board to save space. So if one piece malfunctions, you have to take apart (and perhaps replace) the whole thing, which isn't an easy (or inexpensive) task.

Bottom line, if portability isn't important, opt for a desktop — an iMac, Mac Studio, Mac mini, or Mac Pro — depending on the processing power you need (as described in the following section) and the desk space you have available.

Know How Much Computing Power Is Too Much

Take a moment to consider which tasks your Mac will be used for — not only now but also a year or three down the road. If you plan to try your hand at any of the following tasks (either now, or in the future), feel free to label yourself a power user:

- » **High-resolution photography, audio and music production, or video editing:** If you want to edit high-resolution digital photography (images from a 48-megapixel camera, for example), record or edit professional audio, or do any type of video editing (including using the iMovie application), you need a Mac with horsepower. Think of serious professional photographers, musicians, or videographers.
- » **Running resource-hogging software:** The perfect example is Adobe Photoshop, a program you use to work with high-resolution images that demands the highest level of horsepower your Mac can deliver, along with requirements for more system memory (or RAM). Today's cutting-edge 3D games also require a powerful Mac to run well.

If the preceding points apply to you, you need a powerful Mac Studio desktop, Mac Pro desktop, or MacBook Pro laptop.



TIP

If you know the specific programs you'll be running, check the requirements for that software on the manufacturer's website or the program's packaging (typically, on the side of the box). That way, you can gain a better idea up front whether you need to invest in a more expensive, more powerful Mac Studio or MacBook Pro.

On the other hand, these activities need less computing power:

- » Surfing the web (including sites like Facebook)
- » Sending and receiving email

- » Keeping track of a large digital music library
- » Using apps such as Microsoft Word and Pages for creating documents
- » Storing and sharing digital photos and videos

If the preceding tasks are more your speed (think typical home use), any Mac in the current product line would suit you, including the significantly less expensive Mac mini or MacBook Air.



TIP

If you have a large library of digital audio and video — I’m talking many thousands of pictures or songs — you should note that some MacBook models have a relatively small amount of storage (for example, 256GB), so you’ll need an external drive to hold all that stuff. (And it never fails: You’ll take far more digital photographs than you ever did with film!)

Choose a Price Range

If you’re working on a limited budget and you want a new Mac computer (rather than searching for a used machine), your choice becomes simpler. The least expensive Mac — the Mac mini — is no pushover, and it handles the Microsoft Office and Apple productivity suite programs that I mention previously in this chapter with aplomb.



TIP

Part of the reason the Mac mini is inexpensive is that it doesn’t come with a keyboard, mouse, or monitor. (The same is true of the super-powerful Mac Studio and Mac Pro models.) Then again, if you’re lucky, you can scavenge a flat-panel monitor, keyboard, and mouse from an old computer or from a friend who has spare computer hardware on hand.

The iMac also fits into a smaller budget and comes with everything you need, including its built-in monitor. On the laptop side, the standard-issue MacBook Air provides plenty of punch for those same productivity apps.

Power users, you have few choices: If you're going to run top-of-the-line software that requires top-of-the-line performance, you're limited to the Mac Studio, Mac Pro, or MacBook Pro. 'Nuff said.

Table 1-1 illustrates price ranges for each model as of this writing.

TABLE 1-1 **Macintosh Computer Price Ranges**

Computer Model	Best Suited For	Price Range	Pros & Cons
Mac mini desktop	Entry level to typical home computing	\$799–\$1099	No monitor, keyboard, or mouse
iMac desktop	Midrange user	\$1,099–\$4,999	Built-in monitor
Mac Studio desktop	Power user	\$2,999–\$3,999	No monitor, keyboard, or mouse
Mac Pro desktop	Power user	\$2,999–\$3,999	No monitor, keyboard, or mouse
MacBook Air laptop	Entry level to typical home computing	\$1,199–\$1,399	Least expensive MacBook
MacBook Pro laptop	Midrange to power user	\$1,299–\$1,799	Most powerful (and heaviest) MacBook



TIP

Apple controls its hardware prices closely, so you won't find a huge price difference between ordering directly from [Apple.com](https://apple.com) (or an Apple Store) and from an independent store like Best Buy. (Note that Apple does sell excellent-quality refurbished computers on its website, and you can buy an AppleCare extended warranty along with your purchase.) When you order from [Apple.com](https://apple.com), you can tweak these prices by a significant amount by using the Configure feature. You might save \$200 on an iMac by opting for less storage capacity, for example. (On the other hand, if you're looking to improve the performance of your pick, you may decide to spend more on a processor with faster graphics than the standard model.) See the later section "Compare Processors, Memory, and Internal Drives" for more information about these options. (Naturally, the more you can invest in your Mac's storage,

memory, and processor, the longer it's likely to handle the applications and operating systems of the future.) Older Intel-based Macs will not support many of the new features of macOS.

Select a Monitor

No matter how powerful your Mac may be, if it's hooked up to a low-quality monitor, you see only chunky, dim graphics. Not good. In this section, I tell The Truth about the two most important specifications you should consider while shopping for a monitor: resolution and size.



TIP

If you decided on an iMac desktop, a MacBook Air laptop, or a MacBook Pro laptop, you can skip this section, because those computers have built-in monitors. Keep in mind, however, that you can hook up external (add-on) monitors to any Mac, so if you expand your system, you may want to return here.

» **Resolution:** Your video system's monitor resolution is expressed in the number of pixels displayed horizontally and also the number of lines displayed vertically. (A *pixel* is a single dot on your monitor.) A 1024 x 768 resolution, for example, means that the monitor displays 1,024 pixels horizontally across the screen and 768 pixels vertically. (Any resolution less than 2560 x 1080 is barely usable these days. Higher resolutions start at about 4480 x 2520 for the iMac and extend to the stunning 6016 x 3384 resolution of the 32-inch Apple Pro Display XDR.)



TIP

The more pixels, the higher the resolution. And the higher the resolution, the more information you can fit on the screen, but the smaller that stuff appears, which I find to be a strain on my older (read: *wiser* and *more mature*) eyes. The good news is that higher resolutions make graphics look crisper.

Only you can determine the best display resolution. The decision is completely personal, like choosing a keyboard that feels “just right.” While shopping for a monitor, try a wide range of resolutions at a local electronics store to see which one suits your

optic nerves. Naturally, your Mac and its monitor can be set to lower resolutions, allowing larger icons and text size — you're not limited to just the maximum resolution offered by your hardware.

- » **Size:** Monitors come in several sizes, starting at approximately 13 inches (for the most compact MacBook Air models). All monitors are measured diagonally, just as TVs are. You can easily find monitors that are 40 inches and even larger.



TIP

Today's Macs offer a *Zoom* feature that can greatly increase the size of text on your screen! I cover how to use Zoom in detail in Chapter 4.

In general, the larger the monitor, the easier it is on your eyes. At the same resolution, a 24-inch monitor displays the same images as a 21-inch model, but the image on the larger screen is bigger and the details stand out more clearly.

For general desktop use, a 24-inch monitor is fine. If you prefer to view larger text and graphics, do graphics-intensive work for several hours at a time, or plan to do a lot of gaming, I point you toward a 27-inch monitor at minimum. (As my editor says, picking out a monitor size is much easier if you visit your local electronics store and “stare to compare,” just as you would when shopping for an HDTV. Check out which monitor sizes are easiest on both your eyes and your budget.)

Compare Processors, Memory, and Internal Drives

When you hear Mac owners talk about the *speed* and *performance* of their computers, they're typically talking about one of four components (or all these components as a group):

- » **System memory or random access memory (RAM):** Think of your Mac's memory as the amount of space it has for doing work. In other words, the more memory your Mac has — and

the faster that memory is — the better your computer performs, especially on *macOS* (pronounced mac-oh-ess), which is the operating system on today's Macs. I'm sure that you've heard of Windows, the operating system used by virtually all home PCs. Well, macOS does the same job in the Apple world that Windows performs in the PC world.

» **Central processing unit (CPU):** Macs now use M-class processors developed by Apple (hence the popular moniker “Apple Silicon.” At the time of this writing, processors include the M2, M3 and M4, with some variants of each model that I discuss in an upcoming Tip. (The higher the number, the faster the performance in most cases.) As the “brain” of your Mac, a CPU performs all the millions of calculations required for both your software and macOS. The speed of your processor is measured in gigahertz (GHz) — and, of course, the faster your CPU, the faster your Mac performs.



TIP

Each *core* that's built into your processor provides a significant performance boost, so a 10-core processor is faster than an 8-core processor of the same speed. Think of the old adage, “Two minds are better than one” and you get the idea — one core in your CPU can be working on one task, and other cores may be doing different tasks. It's very efficient indeed!



TIP

If you're shopping for a high-end Mac, you'll see that the most powerful Macs use M3 Pro/M3 Max and M4/M4 Pro processors. These are advanced versions of the standard M3 and M4 CPUs that significantly increase the performance of your Mac (and, naturally, the cost as well). These variants typically have more CPU and graphics cores than the standard processors, so they can easily outperform any standard M3 or M4 models. When shopping for a power-user Mac, I recommend that you let the price of each variant help you narrow your selection to the most powerful CPU that you can afford. At the time of this writing, the M4 Pro model reigns supreme as the fastest CPU available.

- » **Internal drive space:** The higher your internal drive capacity, the more documents, programs, songs, and movies you can store and use. (All current Mac laptops and desktops come with *solid-state drives*, which are more expensive but faster and more reliable than traditional magnetic hard drives.)
- » **Graphics processing unit (GPU) cores:** The M-series CPU carries the processor's video hardware onboard, also expressed in the number of cores. The more GPU cores offered by an M-class processor, the smoother and more realistic your 3-D graphics are in your games and videos.

For a typical home Mac owner, a minimum of 8 gigabytes (GB) of RAM and a standard M2 processor should provide all the power you need. Power users shouldn't settle for less than 32GB of RAM and the fastest processor that Apple offers for your specific model. (Mac Studio owners can even opt for a monstrous 24 CPU core/76 GPU core M2 Ultra system. Talk about supercomputing!)

Decide Which Software You Want

When you buy a Mac directly from Apple, you can immediately purchase a few Apple extras for your new system. I especially recommend the following two:

- » **External DVD SuperDrive:** None of today's Macs have an internal DVD drive, so you can connect one to your Mac's USB-C port for around \$50. A DVD drive is a requirement for enjoying your library of DVD movies, and it comes in especially handy for creating audio CDs for your car's stereo system.
- » **AppleCare:** AppleCare is the Apple extended warranty and service plan. I strongly recommend AppleCare for any MacBook owner because your laptop tends to endure quite a bit of road-warrior treatment while you're traveling. (Prices vary according to the type of computer.)

Buy Online or at the Apple Store

Should you spend your money online? In my opinion, the short answer is yes, because online shopping has two important advantages:

- » **You don't need a nearby Apple Store:** Some of us aren't lucky enough to live within easy driving distance of an Apple Retail Store or Apple reseller, but `Apple.com` is open 24/7, and shipping is free for new Mac computers.
- » **Apple.com is a premiere web store:** You can configure your Mac while browsing to save money or increase performance, so if you're interested in a custom configuration, the online store is the preferred method. Also, you can rest assured that Apple follows a strict privacy statement and offers secure encrypted shopping. That means your credit card information is safe.

You gain two major advantages by shopping in person, however: You can ask questions and receive answers from a trained salesperson before you buy, and you can drive away with that fancy box in your trunk (without having to wait a few days).