



## Student Onboarding Handbook





## DAY 1: What Is Technology?

**Technology** refers to the knowledge and utilization of tools, techniques, and systems in order to serve a bigger purpose like solving problems or making life easier and better. Its significance in human lives is tremendous because technology helps people adapt to the environment.

**Technology** has entered every part of our lives and serves many purposes, both personally and professionally.

- It connects people.
- It helps people feel secure (credit management, alarm systems, sensors in our cars, GPS navigation, etc.).
- It helps deliver goods and services to people in remote areas that might not otherwise get them.
- It helps people work more quickly and efficiently.
- It creates more purchasing options because we now can purchase most anything online. (Even our groceries!)
- It has changed how we are entertained

Almost anything we do can be done online!

**Technology** is human knowledge which involves tools, materials, and systems. The application of technology typically results in products. If technology is well applied, it benefits humans, but the opposite is true if it is used for malicious reasons.

THOUGHTS, NOTES, & QUESTIONS: \_\_\_\_\_

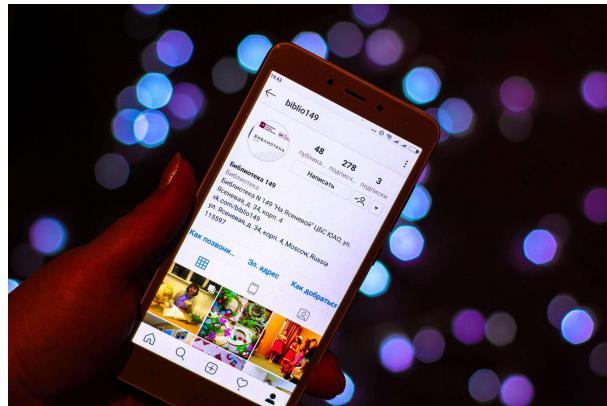
---

---

---

## Ways Technology Has Changed Our World

## It has changed the way we communicate.



In the distant past, communication was limited by location, and in order to speak with someone, you were required to be “fact-to-face.” As humanity evolved and we began living further and further apart from one another, we developed language and an alphabet so that we could share our messages with others who lived or had traveled too far away from us to speak with us in person. With that, the fine art of writing was born, and we began to communicate through letters, a method of communication that was relied on for hundreds of years. But as reliable as this communication method seemed, the letter could take days or even weeks before it was delivered. You also had to trace the letter to see if it had been sent to and received by the appropriate person. So while innovative and effective for its time, when relying on letters to sharing important information across long distances, errors and untimely delays were not uncommon.

Necessity is the mother of invention, and we knew that we needed to invent a better way to communicate. Building on that need and the “want” to communicate not only across long distances, but to do it clearly, quickly, and most importantly, directly, we invented the telegraph and then the telephone, but found ourselves bound by the length of a cord.

Enter innovation once again; and now we’ve literally “cut the cord!” By going wireless, we can now talk anywhere, anytime - and with Bluetooth technology, we don’t even need to hold the phone up to our ears!

Today, because of innovations fueled by technology, the ways in which we are able to communicate with others are endless! We can phone (without long distance fees!), email, text, video chat, comment on social media, chat in message boards...the list goes on and on! What used to take days or weeks, now only takes SECONDS; and because of technology, OUR WORLD moves at an incredibly fast pace.

**On your own time, think about this fast-paced, connected world and imagine what you believe the advantages and disadvantages may be:**

Advantages: \_\_\_\_\_

---

---

Disadvantages: \_\_\_\_\_

---

---

It has changed the way we manage money.



Gone are the days of having to *physically* enter a bank to deposit checks, withdraw money, or transfer funds to someone. Because of technology, online companies like PayPal and apps like Venmo have created user-friendly platforms that allow people to send and receive money from or at any location simply by using the Internet. Similarly, when it comes to bill pay, rather than writing out checks and mailing-in payments, most people choose to use online banking services.

Technology has also led to the creation and convenient availability of apps that help us to manage our money. And now, with a simple swipe on our Smartphones, money management apps can aid us with creating budgets, locating coupons and discount codes, monitoring our spending habits, and sticking to our money-saving goals.

\* As a Persevere student, you will learn much more about this use of technology in the money management module. Below, record your questions and/or concerns about money management in the technological world and we will be sure to address them.

My questions and/or concerns: \_\_\_\_\_

---

---

---

---

---

---

---

It has changed the way we are entertained.



In a time not so long time ago, and in a galaxy not far, far away, if you missed an episode of your favorite show or if you left the room during an epic sports play, your ability to ever see what you missed was limited. However, with the aid of technology, the innovations in the TV-watching industry are nothing short of incredible -- completely transforming how we watch and experience television.

Today, tech-innovations give us control over how we follow the live experience, allowing us to record, pause, and rewind live TV in case we missed or needed to re-watch something. Additionally, with the use of our mobile devices, TV-watching is no longer limited to cable-boxes and TV-sets. Mobile apps and the internet give us the freedom to watch our favorite shows when, where, and how we want. There is no limitation whatsoever in the digital space of television. Because now, even if you missed an episode of your favorite television show, Netflix, Hulu, YouTube and Pay-per-View are always there as a back-up so that you can catch up on any movies or episodes you have missed whenever is convenient.

In addition to television, technology has also transformed the way in which we consume music. These days, instead of buying CDs or making mixed tapes, we are able to listen to music digitally. We can electronically purchase albums and individual songs to put into our music “libraries;” and, there are also free mobile apps such as Spotify, Pandora, and iHeartRadio that offer all kinds of streamable music and playlists that are customizable to your tastes.

THOUGHTS, NOTES, & QUESTIONS: \_\_\_\_\_

---

---

---

---

---

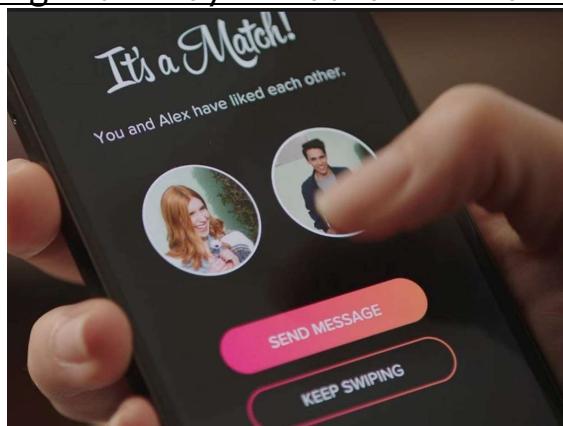
---

---

---

---

It has changed the way we date and meet new people.



Thanks to technology, if the movie *You've Got Mail* was written today, Tom Hanks and Meg Ryan's characters could have skipped the secret email courtship simply by creating online dating profiles. With just a few clicks, and by answering a few personal questions about their likes and dislikes, a service like *Match.com* could have calculated their compatibility and suggested that they contact one another to set up a date. But, if that had been the case, and if they'd had a convenient dating website to use, it wouldn't have been much of a movie. That being said, today's dating landscape has been completely transformed,

because, yes -- nowadays -- people “virtually meeting” online is the new normal.

No longer do we have to go hang out at a party or at a bar to meet people; and no longer do we have to sit across the table from someone trying to figure out if he or she is a good match for us. Thanks to technology, online dating sites and mobile apps have alleviated some of the stressors associated with old-school dating, while widening the pool of potential partners. By having their customers create personality profiles, dating websites use technology to match people together who are looking for someone with similar backgrounds, value systems, and interests.

With convenience, accuracy, and speed, dating platforms have helped both men and women connect with potential romantic matches so that neither person has to waste the other person’s time if they aren’t compatible. It is comfortable, straightforward, safe, and most importantly, it works.

It has changed the way we manage our health.



- We have access to our care providers and medical records online.
- There are apps that help us track our food choices and intake, if needed.
- Smart watches can monitor our sleep, activity levels, and heart rate.
- Technology used in the medical field has helped reduce risk, recovery time, and invasiveness of procedures like surgery.

It has changed the way we shop



Today, we can shop for ANYTHING online...including groceries!

But this wasn't always the case.

While we still need to decide on an item or product we'd like to buy, the physical landscape of shopping has been transformed by technology. Back in the day, shopping required you to drive to a store, locate the item, talk to a store clerk, find out the price, and then decide if that was the best price or if we should continue shopping around for a better deal. We were also limited by location, with the items we were able to purchase being restricted to what was available in our geographical location. However, today, the process looks and occurs a bit differently; and we are now able to choose from items available from all over the world. Advancements in technology have led to the creation of online marketplaces selling new, used, and even customized products; and we now have access to review sites, discount sites and online forums that have all changed the way we approach shopping.

While it's certainly easy to make a purchase from the comfort of our own homes (at any time of day or night for that matter), some consumers still prefer face to face interaction when making purchases. This is especially true concerning higher-priced items and larger purchases such as appliances or automobiles. However, a preference for in-person transactions doesn't mean that before we venture out to shop, we can't scour the internet for price-comparison research, sales, and the fair-market value of the item we'd like to purchase.

Online shopping is a "win" for consumers for a number of reasons:

1. It is convenient
2. Consumers are easily able to find the best deals and to compare prices
3. There's more variety
4. It's easy to send gifts directly from a website
5. There are no crowds or traffic; and we can save money and help the environment by conserving our gas
6. There is no sales pressure
7. Consumers have access to online coupons, discount codes, and special sales
8. It is private

Remember! Even though online shopping is fun and easy because of its convenience; however, this “ease” can also make it easy to overspend. Companies have caught on to how convenient online shopping is for consumers, and they have found ways to “capitalize” on that convenience. Online marketplaces will offer to “save” your payment information so that the next time you need to make a purchase, it is as simple as clicking the “buy” button. Similarly, many companies will offer discounts to consumers for subscribing to their products and services.

Sometimes cancelling a subscription can be an inconvenience, but if we don't need the product, it is important to take the time to cancel any online product subscriptions.



## DAY 2: The Internet of Things

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, collecting and sharing data\*\*. Thanks to inexpensive processors and wireless networks, it's possible to make nearly anything into part of the IoT. Advancements in the quality of technology available at a lower cost and in a smaller size have added a level of digital intelligence to devices that would otherwise be "dumb." Our now "smart" devices are able them to communicate independently of humans, merging together the digital and physical worlds.

**\*\*To clarify:** The term IoT is mainly used for devices that wouldn't usually be expected to have an internet connection and that can communicate with the network independently of human manipulation. For this reason, PCs and smartphones are not generally considered to be IoT devices -- even though the latter is crammed with sensors. However, a smartwatch or a smart refrigerator would be termed as IoT devices because they would not normally be considered online devices.

The following devices can be manipulated through the internet or online apps (not a comprehensive list):

**In Homes:** camera systems such as Ring, smart thermostats such as Nest, security systems, online electrical systems, smart refrigerators, and interactive devices like Alexa by Amazon are all now connected to the Web. See page 8 for supplemental information

*about smart homes.*

**In Transportation:** engine sensors, transportation providers like Uber & Lyft, navigation devices, transportation grids, traffic lights, and jet engines are connected to the Web.

**In Business:** Automated factories, devices to track deliveries and buying patterns, devices and apps so more people can work remotely, and much more provide businesses with almost unlimited access to information.

### What Is a Smart Home? (Supplemental Information)



A smart home is one in which a person can monitor, control and track various appliances from the convenience of a smartphone or device. Each appliance is connected to the home internet and is able to communicate with each other via a mobile device or computer. Many people monitor and control their home's appliances, heating, cooling, and security systems via smartphone.

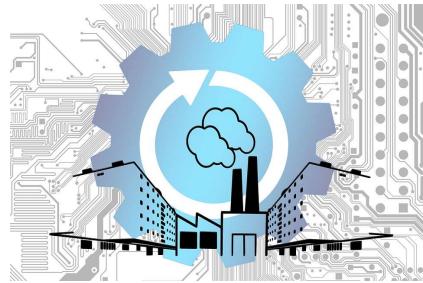
These days, anything that runs on electricity (or even batteries) can now be made “smart” (Internet connected) and can all be controlled by the user on a smartphone, computer, or selected “hub” device.

Some examples of IoT devices found in smart homes:

- Appliances including refrigerators, ovens, toasters, washing machines, stereo systems, etc. (Some refrigerators even have cameras inside that you can access while at the supermarket so that you can see what you may need to purchase or already have.)
- Security systems including indoor and outdoor cameras, smoke detectors, carbon monoxide detectors, and points of entry alarms.
- Thermostats can now be linked to the internet and controlled by a smartphone. Additionally, the climate control devices can learn people’s temperature “habits,” and can respond by adjusting themselves in alignment with a person’s preferences during certain times of the day.

The benefits of smart home devices:

- You have total control of your home, even when you aren't there.
- Smart homes decrease your household expenses.
- Smart homes are energy saving, which benefit you and the environment.
- It is user-friendly
- Smart homes add safety and security to your life.



IoT in the workplace also has many benefits. With IoT devices, organizations are able to:

- monitor their overall business processes
- improve the customer experience
- save time and money
- enhance employee productivity
- integrate and adapt business models
- make better business decisions
- generate more revenue

### **IOT FUN FACTS AND STATISTICS**

- There are expected to be more than 64B IoT devices worldwide by 2025.
- The global IoT market is forecast to be worth \$1.7 trillion in 2019.
- By 2022, 100% of the global population is expected to have LPWAN coverage. (This stands for Low Power Wide Area Network. A low-power wide-area network or low-power wide-area network or low-power network is a type of wireless telecommunication wide area network designed to allow long range communications at a low bit rate among things, such as sensors operated on a battery.)
- IoT has the potential to generate \$4T to \$11T in economic value by 2025.

- The main revenue driver for 54% of enterprise IoT projects is cost savings.
- More than 80% of senior executives across industries, on average, say IoT is critical to some or all lines of their business in 2018.
- 97% of organizations feel there are challenges to creating value from IoT-related data.
- The IoT in Banking and Financial Services market size is expected to grow to \$2.03B by 2023
- By 2020, over 153 million cars are expected to be linked to the Internet compared to just 23 million in 2014.
- Approximately 100 million light bulbs will be connected to the internet by 2020 compared to 2.4 million in 2014.
- Analysts estimate that 477 million smart home devices will be shipped globally in 2020.



The Internet of Things is a fascinating subject and sparks great imagination. Wherever you can imagine a computer helping us, it can likely be done. Where has this discussion taken your imagination today? \_\_\_\_\_

---



---



---



---



---



---



---



---



---



## Day 3: Computer Basics

*What is a computer?* A **computer** is an electronic device that manipulates information, or data. It has the ability to **store**, **retrieve**, and **process** data. You may already know that you can use a computer to **type documents**, **send emails**, **play games**, and **browse the Web**. You can also use it to edit or create **spreadsheets**, **presentations**, and even **videos**.

Types of Computers (As seen on the slides, but with an explanation of each.)

### Examples and types of computers



1. **The PC, or desktop:** A personal computer is a general-purpose, cost-effective computer that is designed to be used by a single end-user. Every PC is dependent on microprocessor technology, which allows PC makers to set the entire central processing unit (CPU) on a single chip.
2. **The laptop, or notebook:** A laptop computer is a portable personal computer powered by a battery or an AC cord plugged into an electrical outlet that

simultaneously charges the battery. Laptops have an attached keyboard and a touchpad, trackball, or joystick used for navigation. A laptop also has a thin display screen that is attached and can be folded flat for transport.

3. **The Netbook:** A netbook is a small mobile computing device (a mini laptop) that has less processing power and storage space than a laptop computer. Netbooks are extremely lightweight, and most do not include a CD/DVD drive. However, they do support a small keyboard for word processing and other inputs.
4. **The hybrid:** A hybrid computer is a type of computer that offers the functionalities of both a digital and an analog computer. It is designed to include a working analog unit that is powerful for calculations, yet has a readily available digital memory. In large industries and businesses, a hybrid computer can be used to incorporate logical operations as well as provide efficient processing of differential equations.
5. **The tablet:** A tablet is a wireless **touch screen** personal computer (PC) that is smaller than a notebook but larger than a smartphone. Modern tablets are built with wireless Internet or local area networks (LAN) and a variety of software applications, including business applications, Web browsers and games.
6. **The smartphone:** A smartphone is a mobile phone with highly advanced features. A typical smartphone has a high-resolution touch screen display, WiFi connectivity, Web browsing capabilities, and the ability to accept sophisticated applications. The majority of these devices run on any of these popular mobile operating systems: Android, Symbian, iOS, BlackBerry OS and Windows Mobile.

\*\*\*Definitions are credited to [www.techopedia.com](http://www.techopedia.com)

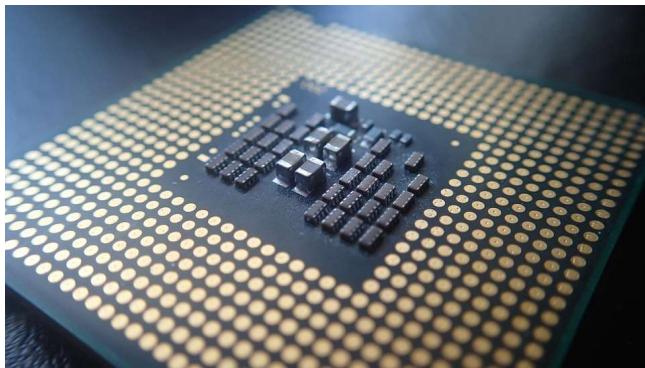
### The Five Main Internal Components of a Computer

1. **The Central Processing Unit (CPU):** The CPU is considered the “brains” of a computer, and is the unit which performs most of the processing. In order to control instructions and data flow to and from other parts of the computer, the CPU relies heavily on a chipset, which is a group of microchips located on the motherboard.

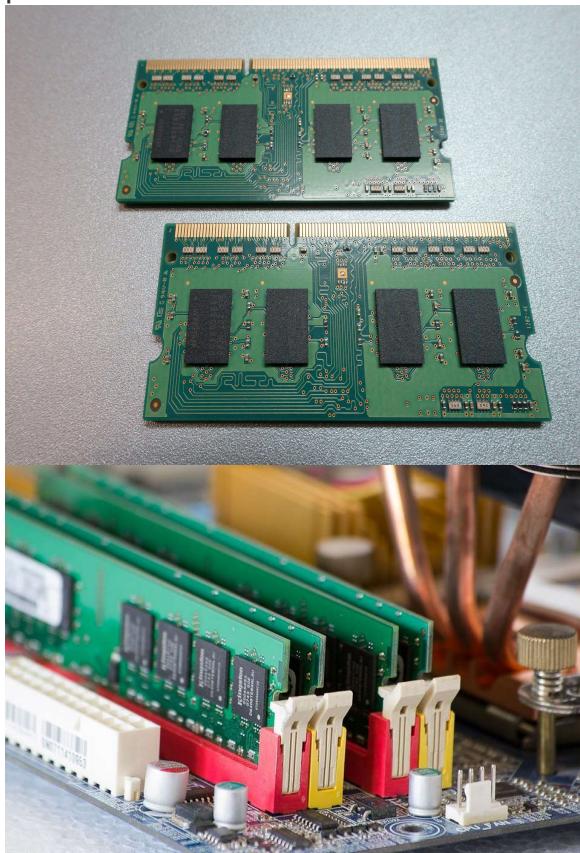
The CPU has two components:

- Control Unit: extracts instructions from memory and decodes and executes them
- Arithmetic Logic Unit (ALU): handles arithmetic and logical operations

The CPU is also known as a central processor, microprocessor or chip.



**2. The Random Access Memory (RAM):** Random access memory (RAM) is a type of data storage used in computers that is generally located on the motherboard. This type of memory is volatile (unstable) and all information that was stored in RAM is lost when the computer is turned off. Volatile memory is temporary memory while ROM (read-only memory) is non-volatile and holds data permanently when the power is turned off.



**3. Hard drive:** A hard disk drive (HDD) is a non-volatile computer storage device containing magnetic disks or platters rotating at high speeds. It is a secondary

storage device used to store data permanently, random access memory (RAM) being the primary memory device. Non-volatile means data is retained when the computer is turned off.



**4. Video card:** A video card is a PC component that is used to enhance the quality of images shown on a display screen. It is attached to the motherboard and controls and calculates an image's appearance on the screen. The video card is an intermediate device that accelerates the video throughput. Video cards are also known as graphics cards, video adapters, display cards, graphic adapters and graphic accelerators.



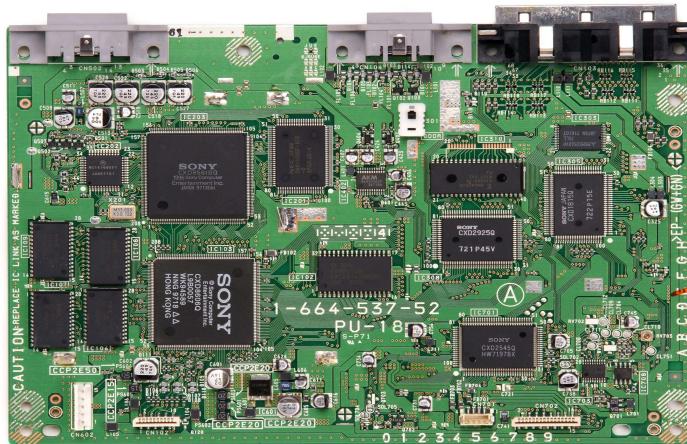
**5. Motherboard:** A motherboard is a computer's main circuit board, and it includes the following attached to a fixed, flat surface:

- Input/output ports
- Peripheral connections
- PCI expansion slots
- Bus and power connectors
- Heat sinks and mounting points for fans and major components, including the

- central processing unit (CPU) and optional coprocessors
- Supporting chipset for CPU, bus and external components
- BIOS
- Memory sockets for RAM, ROM and cache
- Interconnecting circuitry

\*It is not necessary to know exactly what each individual component means, as it is very complex. Just know that the motherboard is where most of the magic happens!

The motherboard is also referred to as the main board (mobo), system board or planar board. Apple computers refer to the motherboard as the logic board.



\* Definitions are credited to [www.techopedia.com](http://www.techopedia.com)

#### The Main External Components of a Computer (PC):



## The Monitor

The **monitor** works with a **video card**, located inside the computer case, to display images and text on the screen. Most monitors have **control buttons** that allow you to change your monitor's display settings, and some monitors also have built-in speakers.

Newer monitors usually have **LCD** (liquid crystal display) or **LED** (light-emitting diode) displays. These can be made very thin, and they are often called **flat-panel displays**. Older monitors use **CRT** (cathode ray tube) displays. CRT monitors are much larger and heavier, and they take up more desk space.

Computer monitors are measured the same way as TVs: diagonally across the screen in inches. Monitors range in size from 19 inches up to 34 inches. The recommended size for the typical user is between 22-24 inches because it offers a nice compromise between screen size and the amount of space it takes up.



## The Keyboard

The **keyboard** is one of the main ways to communicate with a computer. There are many different types of keyboards, but most are **very similar** and allow you to accomplish the same basic tasks.



[www.techterms.com](http://www.techterms.com) defines the keyboard as follows:

As the name implies, a keyboard is basically a board of keys. Along with the mouse, the keyboard is one of the primary input devices used with a computer. The keyboard's design

comes from the original typewriter keyboards, which arranged letters and numbers in a way that prevented the type-bars from getting jammed when typing quickly. This keyboard layout is known as the **QWERTY** design, which gets its name from the first six letters across in the upper-left-hand corner of the keyboard.

While the design of computer keyboards may have come from typewriters, today's keyboards have many other keys as well. **Modifier keys**, such as Control, Alt/Option, and Command (Mac) or the Windows key (Windows) can be used in conjunction with other keys as "shortcuts" to perform certain operations. For example, pressing Command-S (Mac), or Control-S (Windows) typically saves a document or project you are working on. Most of today's computer keyboards also have a row of function keys (F1 through F16) along the top of the keyboard, arrow keys arranged in an upside-down T, and a numeric keypad on the right-hand side. Some keyboards have even more buttons, allowing you to change the system volume, eject a CD, or open programs such as your e-mail or Web browser.

### The Mouse

The **mouse** is another important tool for communicating with computers. Commonly known as a **pointing device**, it lets you **point** to objects on the screen, **click** on them, and **move** them.

There are two main mouse types: optical and mechanical. The **optical** mouse uses an electronic eye to detect movement and is easier to clean. The **mechanical mouse** uses a rolling ball to detect movement and requires regular cleaning to work properly. Most use the optical method these days. Additionally, most of them are wireless now.



There are alternatives to the traditional mouse:

1. **Touchpad:** A touchpad—also called a **trackpad**—is a touch-sensitive pad that lets you control the pointer by making a drawing motion with your finger. Touchpads

are common on laptop computers.



2. **Trackball:** A trackball has a ball that can rotate freely. Instead of moving the device like a mouse, you can roll the ball with your thumb to move the pointer.



THOUGHTS, NOTES, & QUESTIONS: \_\_\_\_\_

---

---

---

---

---

---

---



## Day 4: What is a Computer Programmer/Coder?

Techopedia.com defines a computer programmer as....

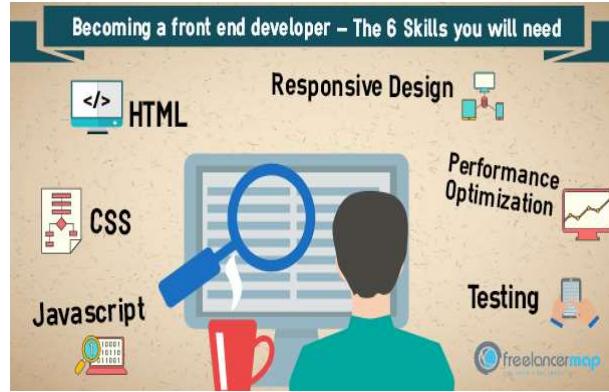
a skilled professional who codes, tests, debugs, and maintains the comprehensive instructions known as computer programs that devices should follow to execute their functions.

Computer programmers also conceptualize, design, and test logical structures to solve computer issues. Programmers make use of specific computer languages like C, C++, Java, PHP, .NET, etc. to convert the program designs developed by software developers or system architects into instructions that the computer could follow. They often refer to code libraries for simplifying their coding, and might build or make use of computer-aided software tools to automate the coding.

A computer programmer is also referred to as a programmer, coder, developer, or software engineer. Also, the term is often used to refer to a stand-alone **software** developer, mobile applications developer, Web developer, software analyst, embedded firmware developer, and so on.

There are three main categories of programmers: front-end developer, back-end developer, and a full-stack developer. In this class, you will receive certifications for all three, which will make you extremely marketable in the tech industry.

### The Front End Developer



A front-end developer is a type of computer programmer who codes and creates the visual front-end elements of software, applications or websites. He or she creates computing components/features that are directly viewable and accessible by the end user or client.

A front-end developer is also known as a client-end developer, HTMLer and front-end coder.

Front-end development means that the coder is responsible for the “visual” portion of a website. Typically, the front-end developer’s job is to convert website design files into raw HTML, JavaScript (JS) and/or CSS code. This includes the basic website design/layout, images, content, buttons, navigation and internal links. The end result is code that serves as the website’s front-end structure, which is used by a back-end developer to add business logics and connect databases and processes, among other processes.

A front-end developer is responsible for ensuring that a website’s visual front end is free of errors and looks exactly as designed. A front-end developer also ensures that a website has the same visibility across different computing and mobile Web browsers.

Similarly, in software applications, a front-end web developer creates the graphical user interface (GUI) that enables access to the software’s back-end features and capabilities.

**Front end developers work on the VISIBLE parts of a website.**

### The Back End Developer



**Back-end developers** are responsible for and focus on the inner workings of web applications to build out the "server-side" of web applications. Server-side is the code and language that runs behind the scenes on the web server or the back-end.

Note: A **server** is a **computer** that provides data to other **computers**. It may serve data to systems on a local area network (LAN) or a wide area network (WAN) over the Internet. Many types of servers exist, including web servers, mail servers, and file servers. Each type runs software specific to the purpose of the **server**. --[www.techterms.com](http://www.techterms.com)

Back-end developers primarily develop and maintain the core functional logic and operations of a software application or information system. Typically, a back-end developer has expert programming skills in C++, C#, Java and other high-level programming languages.

The key job role of a back-end developer is to ensure that the data or services requested by the front-end system or software are delivered through programming means. Back-end developers also create and maintain the entire back-end of a system, which consists of the core application logic, databases, data and application integration, API and other back-end processes. Moreover, a back-end developer performs the testing and debugging of any back-end application or system.

In other words, back-end developers create the logic to make the web app function properly.

**Back end developers work “under the hood” on databases and infrastructure so that programs run properly, focusing on responsiveness and speed.**

### The Full Stack Developer



**Full stack developers** work with both the front end and back end of a website or application. They're familiar with HTML, CSS, JavaScript, and one or more back end languages, which include Java, PHP, Ruby on Rails, Python, and .Net.

As the line between what can be done on the front end vs back end becomes more and more similar, and as things that were previously only possible on the back end become possible on the front end, more developers are becoming what we call "full stack." A lot of employers (especially agencies that work on different kinds of sites) are looking for developers who know how to work on all the parts of a site, so they can use the best tools for the job regardless of whether it's "front end" or "back end."

*As you have read through the 3 main types of computer programmers, you likely have seen terms and concepts that are confusing and/or unknown to you right now. Do not get discouraged. The classes you are beginning will be comprehensive, meaning you will leave knowing all you need to know. Write down the words below that you are still unsure of, and by the end of your coursework, you can look back and take pride in having learned all about them.*

---



---



---



---



---



---



---



---



**“In the 21st century, if you want to learn a skill that opens doors to multiple careers, coding is the way to go. The career prospects for a coder [are] ever expanding, from the obvious coding jobs to entrepreneurship.”** -- code.likeagirl.io

## Day 5: Career Paths for Computer Programmers

You are just beginning your new adventure into learning something new, developing skills for a new career, and making a dramatic change in your life; and you may be thinking that it's too early to think about what you may want to do with the coding skills you will acquire during these courses. But it's never too early to consider what your passions are, what areas of technology interest you, and what you envision your life to be in your new career.

In the space below, brainstorm all of the things you are interested in -- even ones outside of the technology field. Knowing what you are passionate about will later help you to navigate areas of the tech field that may be a good fit for you.

Technology has entered all aspects of our lives, so the options are limitless! (You can also add to this list as you learn more.)

---

---

---

---

---

---

---

---

---

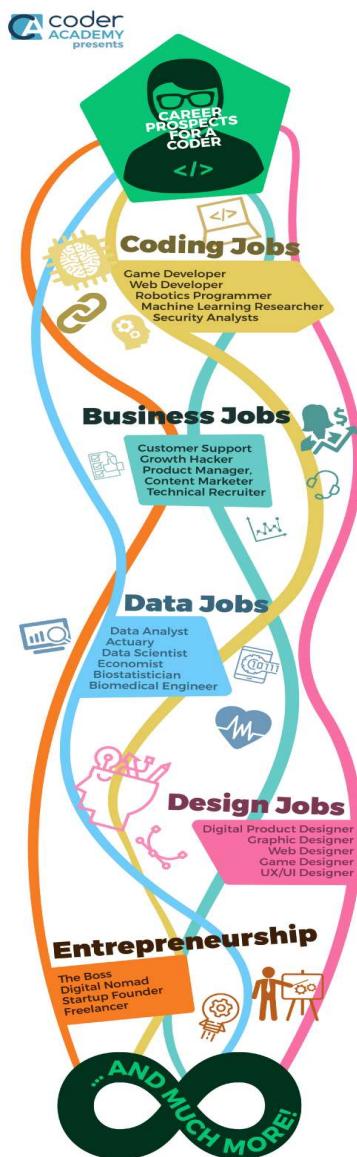
---

---

---

There really are no limits for the computer coder in the job market, but most career options fall under 5 main categories:

1. Coding
2. Business
3. Data
4. Design
5. Entrepreneurship





## Coding

This is the clearest career path after learning to code; and there are many options in the job market.

A handful of these titles include, but are not limited to : game developer, web developer, robotics programmer, and machine learning researcher. If you are looking to tackle tech-cool problems and to build things in the 21st century, then coding is the way to go.

## Business

The integration of technology into every aspect of business has made it crucial for people in these jobs to be adept at coding.

The types of business positions out there are endless, but some include: customer support, growth hacker, product manager, content marketers, and technical recruiter.

## Data

We're living in the era of data & information, and being able to draw insights from that data allows businesses and organizations to do their work more efficiently and effectively. For instance, using data analysis, a business might be able to better understand its customers enabling them to focus on delivering better services, or a research facility may be able to better spot abnormalities in blood samples.

Some roles in the data industry include data analyst, actuary (a person who analyzes risk & uncertainty), data scientist, economist, and many more.

## Design

The tech industry now influences even the most creative, conventionally “non-tech” jobs. It is no longer the case that designers spend time sketching their ideas onto a white sheet of paper. The norm today is to use digital tools to create virtual products. If you are a

creative person and have a coding background, a whole new world of design jobs opens up for you.

These include jobs like: graphic designer, web designer, game designer, UX/UI designer, digital product designer, and so on.

### **Entrepreneurship**

One of the most exciting fields to venture into as a coder is entrepreneurship. If you were to look at the categories of today's startup companies, you would see that they are overwhelmingly tech driven. In the startup world, coding and entrepreneurship have almost become synonymous, meaning that coders are imaginative problem-solvers who start their own websites or companies to solve those problems.

Knowing how to code can help you launch your product and drive down your costs, while making you a more logical and more creative problem solver. Furthermore, the freedom that comes with being a coder can lead you to become a digital contractor or freelancer.

As a Persevere student, you will be participating in entrepreneurship training, so if this interests you, hold onto your hat, because there is MORE to come!

