

# Essentials\_0x00



That being said, all we need to excel in computer science is to harbour a never-ending thirst for knowledge, passion and curiosity to learn new things, you are clearly not held behind by your college or anything, in fact, all the world information is already available

to you in the form of internet, so what you need to do is acquire curiosity for that knowledge

Computers were created as a means to facilitate the flow of information, and to be productive and that's what the usage should be

A common mobile device, the one you might have in your hands right now, can have 100,000 times more computing power than the computer used to send humans to the moon for the first time

NASA sent humans to space with just 4KB of ram back in the day, whereas we've got plenty of gigabytes to throw away

**Just imagine what could you achieve with this much power, only if you learn to recognize its worth.**



**Imagine you want to become a programmer, and you know that there are more than 200 different programming languages that can be used to create applications. If we learned every programming language within 100 hours, we would spend 20,000 hours or 2,500 days (8 hours per day) or, in other words, almost seven years to learn all of these programming languages. As a result, we spent seven years learning all these languages**

We have got the idea. No one wants to spend so much time on just one area.

Furthermore, this is not necessary. We will need some time to learn different technical principles, structures, and processes, but we will not need to spend seven years. Every programming language has its own strengths and weaknesses. Also, if we can obtain a deep understanding of a single programming language, we will learn others much faster. We do not need to learn every programming language to understand how to read their code. All of them follow the same principles which R. D. Tennent initially defined:

- 1. The Principle of Abstraction**
- 2. The Principle of Correspondence**
- 3. The Principle of Data Type Completeness**

(Everything in computer science is formed using the aforementioned principles, you need not worry about learning a new thing when you've understood the purpose of these principles)

I expect you to google the above terms and get a short-quick grasp of them

As previously mentioned, the problem in this field is the sheer volume of information available to us. We can learn about every topic and still not master any one area, or we can learn about just one topic and become an expert in it.

**Another option is developing our research methodology, the learning process, and how to use this to improve our knowledge. We will be successful if we know how to search for the required information on the internet, and we know how to learn fast and adapt to the environment we are working in.** However, before we can do this, we have to learn and practice how to do it.

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**As this write-up is geared towards getting our feet wet in the field, and not jumping straight away into computer programming but climbing one block at a time, I suggest you follow up with the tasks below**

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## Necessary Tools

The very first resource you'll need is Google, you might not understand it but googling and being resourceful Is an important skill

### Google

Search the world's information, including webpages, images, videos and more. Google has many special features to help you find exactly what you're looking for.

 <https://www.google.com/>

Next up is stack overflow

### Stack Overflow - Where Developers Learn, Share, & Build Careers

monthly visitors to Stack Overflow & Stack Exchange Times a developer got help since 2008 from companies using Stack Overflow for Teams Stack Overflow for Teams instances active every day A community-based space

 <https://stackoverflow.com/>

Stack Overflow is a community forum where thousands, if not millions of computer science questions are asked and answered with explanations by experts and fellow programmers, If you run into a bug, stack overflow has the solution for it

## Notion - One workspace. Every team.

We're more than a doc. Or a table. Customize Notion to work the way you do.

 <https://www.notion.so/>



## Notion

The all-in-one workspace.  
Notes, tasks, wikis, & databases.



This is notion, the online note-taking web app, in fact, notion is the software I used to craft this very PDF, of course, you have MS Office Suite, but for productivity and automation, Notion is twice as fast, twice as beautiful and useful.

## Open Broadcaster Software | OBS

OBS Studio is equipped with a powerful API, enabling plugins and scripts to provide further customization and functionality specific to your needs. Utilize native plugins for high performance integrations

 <https://obsproject.com/>



Somewhere down the road, you might face the need for recording your screen, although Windows11 and modern Linux operating systems come pre-packaged with a screen recorder, you pretty much don't have access to recording resolution, audio bitrate or fps, OBS is an **open source** video recording software that is free and wonderful to use (after installing it you have to set it up, which is available on youtube)

## GeeksforGeeks | A computer science portal for geeks

A Computer Science portal for geeks. It contains well written, well thought and well explained computer science and programming articles, quizzes and practice/competitive programming/company

 <https://www.geeksforgeeks.org/>



Similar website to stack overflow, they also offer courses on Data structures and interview prep

## Learn to type

How can you expect to become a programmer when you look down at every key before you type a letter?

Well, everyone knows how to type, but do you know how to type without looking at the keyboard? Can you type at the average speed? i.e., 40 WPM(words per minute)

You should be familiar with the idea of touch typing, touch typing means typing without looking.

Just look below on the **F** and **J** keys, they have a little bump on them, that's because that's the way you must be placing your index fingers on the home. It's faster to type in this way.

All you need to achieve this determination and motivation and just a few hours

I've attached a few resources that will help you regarding your typing speed

#### Free Touch Typing Software

Learn touch typing online using TypingClub's free typing courses. It includes 650 typing games, typing tests and videos.

 <https://www.typingclub.com/>



#### Typing Test English - 10FastFingers.com

Typing Test - 10fastfingers offers a free online Typing Speed Test Game in multiple languages. You can measure your typing skills, improve your typing speed and compare your results with your

 <https://10fastfingers.com/typing-test/english>



<https://monkeytype.com/>

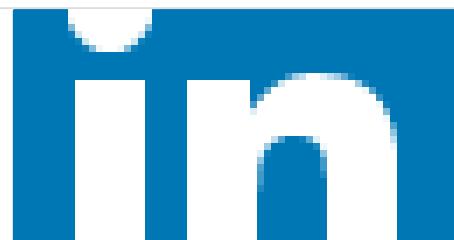
Visit them all and get your hands dirty with all of them

## Create your socials

#### LinkedIn: Log In or Sign Up

750 million+ members | Manage your professional identity. Build and engage with your professional network. Access knowledge, insights and opportunities.

 <https://www.linkedin.com/>



Now, when I say about signing up on LinkedIn, I am not forcing you to apply for jobs, rather, network, linked is a fantastic place for networking and every professional you might know or there are in this world, has a LinkedIn handle. LinkedIn is also used to share useful materials and interview questions by many people who are content creators on it, you can learn what the industry is demanding by staying updated with regular job postings by companies, its also important as it is a showcase of your professional profile

### GitHub: Where the world builds software

GitHub is where over 83 million developers shape the future of software, together. Contribute to the open source community, manage your Git repositories, review code like a pro, track bugs and

 <https://github.com/>



GitHub is an Internet hosting service for software development and version control using Git. It provides the distributed version control of Git plus access control, bug tracking, software feature requests, task management, continuous integration, and wikis for every project. It is maintained by Microsoft and is a go-to website to share and document code, and to work together, this is the way the world's programmers collaborate.



The next thing we'll discuss would be:

- Setting up a modern programming environment
  - Installing python
  - Installing a C/C++ compiler
- Installing Linux via virtualization