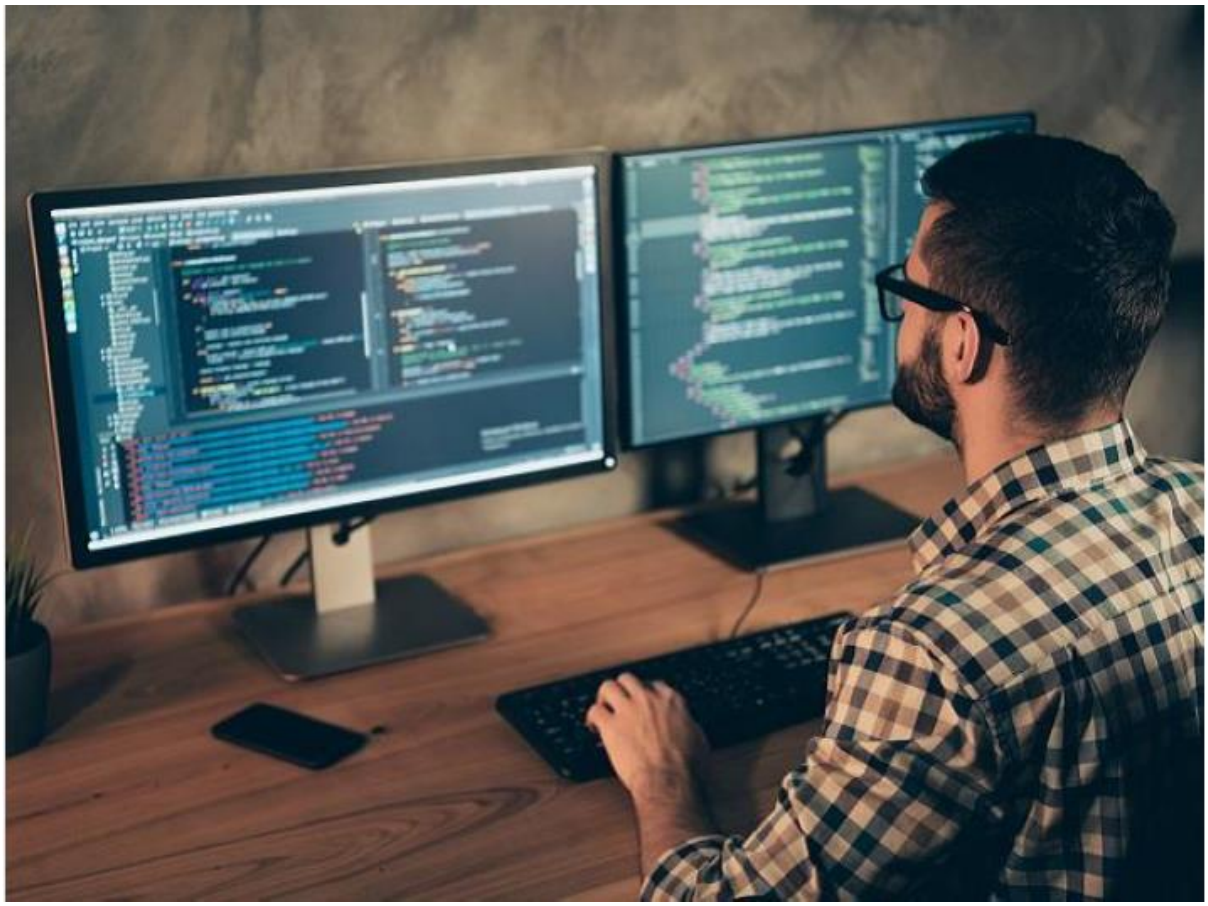
Business Standard

# Coding: No longer just for geeks, but a course of choice for one and all

**If you can read and write, you can do coding and open up to a whole new world of digital creativity at the job while also sharpening your analytical skills and improving problem-solving ability**

**Namrata Kohli | New Delhi November 06, 2020** Last Updated at 15:11 IST



*Coding teaches us how to speak the tech language of computers and is well aligned with 21st century careers and life*

If you are checking in code, you have to maintain your code, says Mark Zuckerberg, Facebook co-founder and CEO, who says that he still dabbles in it for fun every now and then.

Until a few years ago, coding was considered to be a skill limited to Computer Science students. But in today's digital age, it has become ubiquitous and considered basic literacy. At online and offline learning platforms, the bestselling courses that continue to have a strong audience are the ever-trending technology courses--the likes of Python, Java, ethical hacking, data science, machine learning, and IT. Says Bimaljeet Singh Bhasin, President, Skills and Careers Business, NIIT Ltd, "The current pandemic has accelerated digital growth across sectors, towards Industry 4.0. Digital Skills are the need of the hour. Roles like Full Stack Developers are becoming a critical requirement, due to the nature of multi-skilled roles in demand. Over the past eight months more than 21,000 learners benefited from our Industry connect series on Software Development and more than 16,000 showed interest in various coding programs. The short-term coding programs received more than 1,200 registrations during the same time."

Experts say that coding is not just a subject you learn to ace your engineering exams or to get a job as a coder at Google. In fact, it is a language of logic, creative expression, and creation. According to Anshul Bhagi, Founder, Camp K12, an online platform for coding courses, "An author creates; a painter creates; a dancer creates. There is nothing about coding that restricts it to the domain of engineering and computer science aspirants. While authors and painters might create to tell a story or communicate a message, a coder creates to solve a problem or make someone's life better."

**Basics of coding**

But first, what is code, and why do we need it? Says Pushpendra Singh, Dean Academic Affairs- IIIT Delhi: "Coding is what tells a computer exactly what it must do. For instance, when you use Microsoft Word and press the letter "A" on the keyboard, MS Word shows "A" on the document. That is because somebody has coded MS Word in such a way that when you press on a certain key on a device separate from your screen, it gets displayed. Likewise, the action required on the computer for making the font 'bold' or changing it to 'Times New Roman' is defined by the coding. So coding is way deeper than using the computer."

Nowadays there is a chip in everything, from a microwave to a television. But while computers are programmable, other devices are not. Says Singh, "If there was no coding, computers would have been no better than the television. Someone has written a program that is hardwired into the microwave and that is the role microwave is performing. But you can make computers do things other than what they were originally planned to do. That is why we say computers are programmable. Today if you don't like MS Word you can write coding and change it."

**How to code**

You can learn the basics of coding on your own by doing a beginner's course. The next step is moving into learning a dedicated programming language, such as Scratch, Python, JavaScript, Ruby, C# (C-sharp) or Go. Nowadays there are many free resources available by the name of 'Introduction to Python, Java' and such like. While it may help to have a teacher, coding is mostly about self-learning. If you keep practicing, you will become better with time.

There are a few misconceptions about learning how to code. The first is that people think they have to learn all languages and wonder where they should start from. Singh of IIIT Delhi gives the analogy of how humans speak multiple languages such as Hindi, English, Bengali, Marathi and compares it to Java and Python. “Often people get confused about what they must learn. You can talk with me in English or Hindi we can still understand each other. Ditto with computer as it knows multiple languages and if we talk with it in python, if we talk with it in java, it will still understand. As a user, you need to zero in on the language you want to learn, and find useful for you and the computer will still understand and is fine with anything.”

The second misconception is that you need to spend lots of money to pick up this skill. Experts recommend that there is no need to buy certificates from foreign universities. The best resources are available free. Singh talks about one aggressive coding platform that is merely customising information available on scratch.mit.edu for free. But that is fine as its their business model, he says.

Parental pressure to learn coding is unwarranted. It’s a misconception that coding should be learnt at a very early stage, otherwise it will not come to you. “If a kid is naturally interested in coding and wants to learn it in class 9, it is okay. To me this is similar to someone being naturally interested in learning how to play the guitar and learning it at an early age. But it isn't something that parents should force or impose upon their children. One can always learn everything within an year after class 12 what many kids learnt from classes 9-12. You are not missing out on something.”

**Coding careers**

Where will a specialisation in coding exactly land you? Remember that coding is only the beginning, not the end. Just coding may not be enough--one needs to gain insights into other areas such as AI (artificial intelligence), mathematical modelling, computer science theory, designing algorithms, systems programming. AI and Automation are the latest technologies sweeping the industry. Machine Learning is at the cutting edge of future technologies like AI and Automation, which companies are looking to advance.

You can build a career with established companies, have a start-up or become a freelancer or become an entrepreneur and provide solutions for a variety of companies.

One of the most sought-after professions that needs coding is data science. A data scientist helps companies make sense of the information they gather so that it pays off for them in both, the short and the long term. Today, everything generates data be it transportation, medical science, or pollution. But data has gone beyond the human capability, and you need machines to do that work and computing science to make sense of that. The demand for data scientist is fairly high and is bound to grow. Becoming an ethical hacker is another career option. Frontend developers are in demand and get good salaries.

**Non-coding careers**

More and more non-tech positions require coding as a qualifying skill. Abhimanyu Saxena, Co-Founder, InterviewBit & Scaler Academy, an Ed-tech start-up for upskilling software engineers cites the example of business and financial analysts.

“Quite a few organisations today expect their analysts to use computer programming to mine data and unearth value from it. Likewise, web designers are also doubling up as web developers to effectively put their designs into action. Some other professionals that need in-depth knowledge of coding include game designers, app developers, data scientists, data engineers, computer programmers, UI/UX (User Interface/Experience) designers, product managers, quality assurance engineers, DevOps and SysAdmin among a host of others.”

With fast-paced technological innovations, we are set to share our workplaces with artificial intelligences and bots, so one needs to stay ahead of the curve. To succeed in any future workplace, one must know coding. Says Ramandeep Arora, founder edWisor, an e-learning platform aimed at skilling the workforce for technology careers, “To have experience in coding even though you are in a non-technical role means you can go that extra step to make you work easier. A content marketer struggling to make sense of layouts or templates can benefit from basic skills HTML and CSS, which will go a long way towards designing a goodlooking blog. Even during interviews, managers with skills in advanced excel, SQL and BI tools can stand out of the crowd and gain that edge over other applicants.

Basic coding skills can specifically help product and customer success managers to work much more efficiently with the engineering teams, help in ideation process keeping in mind the technical challenges.”

**Coding in personal life**

The ability to code not only helps professionally, but it also helps in building the problem-solving mindset of an individual. Says Scaler’s Saxena: ‘It helps one in designing solutions to solve the daily life problems. It teaches the habit of approaching an issue or situation methodically. As one goes about understanding the problem and finding solutions, the coding mindset enhances the persons' overall strategic and logical thinking.”

It’s more of literacy than a vocational skill. Says Aanand Srinivas, CEO, Co-founder, Stayqrious: “Schools in the US start teaching it as a subject in grade 1. It’s like knowing English. It allows you to make apps etc but more importantly it gives you an informed lens into technology.”

Founder of Camp K12 shares his own story as to how he started coding at age 12 (8th grade, in middle school) and got addicted to it. Says Anshul Bhagi, “It is a perfect blend of mathematical thinking plus problem solving plus creative expression plus imagination. With code, if you can imagine it, you can build it, and thus it is one of the best ways to empower a child, to make them feel self-confident and self-sufficient. Coding has the unique feature that kids fall in love with it very easily. I do not think we should teach coding to kids to turn them into Coders; that is not the aim. I think we should teach coding to kids to teach them to be better thinkers and better learners, no matter which career path they pursue in their future.”

In an age where the biggest companies in the world (Microsoft, Apple, Google, Amazon, Facebook) are all built on code and running on code, learning to speak this language might not be such a bad thing, even for a humanities student. We should learn coding for the same reason we learn Spanish or English – to communicate with

the beings (and devices) around us, to contribute to society, to participate in our world and make it better. Coding is well aligned with 21st-century careers and a 21st-century life. It teaches you how to speak technology even if you don't need to or want to learn how to write technology.

**Table: A look at some of the leading courses in Coding Course Pricing**

| Course | Pricing |
|---|---|
| NIIT | PG in full stack Product Engineering: Rs 1,99,999; PG in full stack Java Programming: Rs 52,000; Programming in Java: Rs 7,000; Programming Using C and C++: Rs 6,000 |
| Python for Everybody, University of Michigan at Coursera | Free |
| Codeacademy | BASIC: Free; PRO: Rs 1,199 a month |
| Educative.io | Annual Plan: $39.99; Monthly Plan: $59 |
| Digital Defynd | Free to $100 |
| Skillshare, a subscription-based service offers many online coding courses | Plenty of free classes; Premium access from $9/month (7-day free trial) |
| Udacity has a big selection of free courses on coding, and a range of 'nanodegrees', courses | Large selection of free coding courses; nanodegrees from around $399 per month |
| Pluralsight a subscription-based service offers many online coding courses | From $29/£24 per month/free 10-day trial |
| The Complete Web Developer Course 2.0" at Udemy | Rs 700 |
| EDX, Khan Academy, Hack Design, Mijingo, StackSkills, Free Code Camp, General Assembly, Envato Tuts+, Code.org | Free Courses |
| Scaler, an upskilling platform by InterviewBit has programs ranging from 6 months to 24 months titled Scaler Edge, Scaler Academy, Scaler Plus | Rs 39,999 per module (six months) to Rs 2,50,000 |
| Camp K12 offers a group-class program called "Squads", where kids can learn coding with their friends. They also offer a personalised "1-on-1" program spanning over one to 12 months | Rs 2,500-5,500 a month |
| edWisor, an e-learning platform aimed at skilling the workforce for technology careers has courses spanning three to nine months | Rs 27,999-59,999 |
| Stayqrious has a 'Foundations' course for beginners spanning 4-5 months followed by intermediate level for the next 5-6 months, and next 4-month term is the advanced level | Rs 15,000 onwards |