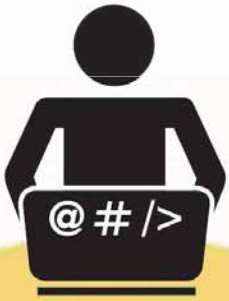

SOFTWARE ENGINEER

JOB DESCRIPTION

Software engineers plan, analyze, design, develop, test, and carry out maintenance work on a wide variety of computer software products. These can range from games, apps, and home entertainment systems, to programs that run a computer's operating system or control network communications between computers.

SALARY

Junior engineer ★★☆☆☆
Senior engineer ★★★★★

INDUSTRY PROFILE

High demand • Many jobs in software and telecommunication companies • Highly paid contract-based roles available for experienced engineers

AT A GLANCE

YOUR INTERESTS Computer science • Information Technology (IT) • Mathematics • Physics • Engineering • New technologies

ENTRY QUALIFICATIONS A degree or a postgraduate qualification in software engineering or a related discipline is the best way to get a job.

LIFESTYLE Working hours are flexible, but tight deadlines demand long hours. Work is usually office-based; travel to meet clients is possible.

LOCATION Although this job is typically office-based, it is common for software engineers to do some work from home.

THE REALITIES The market is highly competitive. Junior software engineers can spend a lot of time tracking down bugs rather than writing their own code.

CAREER PATHS

Software engineers start their careers supporting a team that is developing or modifying computer code. After gaining experience and knowledge of multiple computer systems and languages, they can progress to lead their own development teams or enter specialized areas of the industry.

GRADUATE You will need a degree in an analytical or technical subject—but not necessarily in computer science or Information Technology (IT)—and some experience in computer coding.

POSTGRADUATE If you hold a degree in a nontechnical discipline, you may take an IT conversion course at postgraduate level. It is increasingly popular to learn to write software through online and independent study.

SKILLS GUIDE

- Good team-working skills and the ability to work with people from all over the globe.
- Strong analytical and problem-solving skills to work through the many challenges of a project.
- A creative approach to solving what can often be extremely complex problems.
- Excellent computer skills and the resourcefulness to stay up to date with new technologies.
- Attention to detail and the patience to code and test new software products.

RELATED CAREERS

- **SYSTEMS ANALYST** *see pp. 120–121*
- **DATABASE ADMINISTRATOR** *see pp. 122–123*
- **WEB DEVELOPER** *see pp. 128–129*
- **DATA ANALYST** Analyzes and interprets massive amounts of data for clients. This information, usually in the form of charts, diagrams, tables, or reports, helps companies identify patterns and trends in order to make better commercial decisions.

Employment in this field is expected to grow by 22 percent by 2020.

LEAD SOFTWARE ENGINEER Runs a team and sets the specific project requirements. This person requires experience in order to mentor new recruits and manage their development of technical skills. This is a common role for someone who wants to become a Chief Technology Officer (CTO).

QUALITY ASSURANCE TESTER Tests software to understand the quality of a potential product. A person may take on a role as a software tester before becoming a software engineer in some companies.

GAME DEVELOPER Writes and tests the code used to run games on computers, consoles, and handheld devices, such as tablets and mobile phones.

SOFTWARE RESEARCHER Conceives new ideas, individually or for a company, and develops them as software prototypes. Coding skills are required for this role.

SOFTWARE ENGINEER Experienced software engineers have numerous options for career development. You can progress to a lead engineer or specialize in a variety of areas.