Computing Careers

The computer professional acquires skill by working initially as a technician, and progressing up through the ranks

Gentle Giants

Large commercial computers like this one (known as 'mainframes' to differentiate them from mini- and microcomputers), require a team of highly trained operators to keep them running at peak efficiency. Machines of this size are capable of running hundreds of programs simultaneously, and serving thousands of users anywhere in the world by means of telephone lines, microwave links and communications satellites. A computer room will often contain a number of such machines, each communicating with the other

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The increasing use of computers at home and in schools is producing many gifted programmers — people who might otherwise never have considered the possibility of a career in computing. But the harsh truth is that, as always, a little learning is a dangerous thing — especially, it appears, if that little learning is of the BASIC language.

It is important to understand that the requirements of a professional programmer are fundamentally different from those of a home user, and that many of the attributes are not transferable.

For the school-leaver with a profound interest in computers, a college course on the subject, or direct career entry to computing, seems an obvious choice. Many colleges and universities offer degree courses with a computer qualification at the end and successful students are likely to find themselves able to choose from a variety of job offers. Unemployment in the computing industry has been limited to lower-level computer staff — largely programmers and operators — and the demand for engineers, systems analysts and designers continues unabated.

One option becoming increasingly available is to teach computing at school. Until now, computing as a subject in its own right has been the preserve of universities and colleges. Education is desperately short of trained computer personnel, and such a career would undoubtedly be very rewarding.

There are perhaps six main levels of hierarchy in the computer industry. The lowest grade may be described as 'skilled user.' This category includes workers who have learned to operate computers in particular tasks, such as word-processing or accountancy. Often these skills are picked up as a sub-set of skills to other occupations — e.g. secretarial or office administration — but they also include computer industry functions such as terminal operator, card-punch (data) operator and the like. These jobs require a basic set of school or college qualifications, and the ability to think clearly. Skills such as keyboard operation are normally taught on the job.

Next step up is the computer operator. Though the computers used in industry are quite different in appearance and feel from home computers, they are based on the same principles, so some familiarity is useful. Operators soon come to understand the fundamentals of how computers work, and so becoming an operator is a good springboard to becoming a programmer. Bear in mind, though, that the work can be quite demanding physically. Most large installations, for example, are in operation for 168 hours a week, and need to be manned for all that time.

To become a programmer, the main attributes one needs include a clear, methodical mind and an ability to concentrate on minute detail. It takes a very special type of aptitude to make a skilled programmer, and while normal entry qualifications are a degree or senior school-leaving exam passes, natural ability to work logically often counts for more. Programmers do enter the industry without formal qualifications, and it is this opening that attracts many parents, hopeful for their sons' or daughters' programming abilities.