

## CAREERS IN THE COMPUTER FIELD

Computer-related jobs are among the most rapidly growing employment segments in the United States. Economic studies project that computer equipment will represent about one-fifth of all capital expenditures by businesses in the 1990s. Hundreds of thousands of people will be needed to manufacture, operate, program, and manage new equipment. The most sought-after computer specialists will probably be systems analysts, programmers, and operators.

Systems analysts develop methods for computerizing businesses and scientific centers. They and computer consultants also improve the efficiency of systems already in use. Computer security specialists will be in great demand to help protect the integrity of the huge information banks being developed by businesses and the government.

Programmers write the software that transforms a machine into a personal tool that not only is useful for increasing productivity but also can enlighten and entertain. Applications programmers write commercial programs to be used by businesses, in science centers, and in the home. Systems programmers write the complex programs that control the inner-workings of the computer. Many specialty areas exist within these two large groups, such as database and telecommunication programmers.

As more small- and medium-sized businesses become computerized, they will require more people to operate their systems. Computer operators will need to handle several types of computers and be familiar with a diversified range of applications, such as database managers, spreadsheets, and word processors.

Other important careers in this rapidly expanding field include computer scientists, who perform research and teach at universities; hardware designers and engineers, who work in areas such as microchip and peripheral equipment design; and information-center or database administrators, who manage the information collections developed by businesses or data banks.

Various support careers also exist. Technical writers, computer-based training specialists, and operations managers do not need extremely technical backgrounds to work in their fields; they need only an expertise in their original fields, a knowledge of computers, and a desire to share their knowledge with others. (*See also* Automation; Electronics; Information Theory.)