**Key Terms of Chapter 13**

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| **Key Term** |  | **Definition** |
| agile development | 敏捷开发 | A popular development methodology that gets the core functionality of a program working then expands on it until the customer is satisfied with the results |
| application generator | 程序编码器 | A program that provides modules of prewritten code (see also program coder) |
| assembly language | 汇编语言 | A second-generation programming language that uses abbreviations or mnemonics that are automatically converted to the appropriate sequence of 1s and 0s |
| beta testing | beta测试 | Potential users try out the program and provide feedback |
| code | 代码 | Writing a program using the appropriate programming language |
| code review | 代码评审 | Proofreading a printout of a program for syntax and logic errors |
| coding | 写代码 | Writing a computer program |
| compiler | 汇编程序 | Converts the programmer’s procedural language program into a machine language code |
| computer-aided software engineering (CASE) tools | 计算机辅助软件工程工具 | Provide some automation and assistance in program design, coding, and testing |
| debugging | 程序调试 | Running and testing a program on a computer and then fixing the parts that do not work |
| desk checking | 人工代码检测 | A programmer going through the listing line by line looking for syntax and logic errors |
| documentation | 文档编写 | Written descriptions and procedures about a program and how to use it |
| fifth-generation language (5GL) | 第五代计算机语言 | A computer language that incorporates the concepts of artificial intelligence to allow direct human communication |
| fourth-generation language (4GL) | 第四代计算机语言 | Task-oriented languages designed to solve specific problems (see also very high-level languages) |
| generation | 代 | Programming languages have levels or generations ranging from low to high |
| higher level | 高级（语言） | Programming languages that are closer to the language humans use |
| IF-THEN-ELSE structure | 选择结构 | Use selection logic structure when a decision must be made |
| IFPS (interactive financial planning system) | 交互式财务规划系统 | A fourth-generation programming language used to develop financial models |
| interpreter | 解释程序 | Converts the procedural language one statement at a time into machine code just before it is to be executed |
| level | 分级（计算机语言） | Classifications of programming languages (see also generation) |
| logic error | 逻辑错 | Is an incorrect calculation or procedure |
| logic structure | 逻辑结构 | Programming techniques that take much of the guesswork out of programming |
| loop structure | 循环结构 | A process that may be repeated as long as a certain condition remains true |
| lower level | 低级（计算机语言） | Programming language closer to the language the computer understands; 0s and 1s |
| machine language | 机器语言 | First generation language where data is represented in 1s and 0s |
| maintenance programmer | 软件维护员 | A person who ensures that current programs are operating error free, efficiently, and effectively, and fixes problems when it isn’t |
| module | 模块 | A program’s processing steps (see also programming module) |
| natural language | 自然语言 | Human languages such as English or Spanish |
| object | 对象 | Contains both the data and processing operations necessary to perform a task |
| object code | 目标代码（机器语言代码） | Machine language code |
| object-oriented programming (OOP) | 面向对象程序设计 | A process by which a program is organized into objects, which contain both the data and processing operations necessary to perform a task |
| object-oriented software development | 面向对象软件开发 | Focuses less on procedures and more on defining relationships between previously defined procedures or object |
| objective | 目标（开发目标） | Problem to be solved |
| operator | 操作员 | People who need to know how to execute the program and how to recognize and correct errors |
| patches | （软件）补丁 | Software updates |
| portable language | 可移植语言 | Can be run on more than one kind of computer |
| procedural language | 过程语言（结构化语言） | Programming language designed to express the logic that can solve general problems (see also third generation language) |
| program | 程序 | A list of instructions for the computer to follow to accomplish the task of processing data into information |
| program analysis | 软件分析 | Requires that five items be specified for the program: the program’s objectives, the desired output, the input data required, the processing requirements, and the documentation (see also program specification, program definition) |
| program coder | 编程 | A program that provides modules of prewritten code (see also application generator) |
| program definition | 软件分析 | Requires that five items be specified for the program: the program’s objectives, the desired output, the input data required, the processing requirements, and the documentation (see also program specification, program analysis) |
| program design | 软件设计 | Creating a solution using structured programming tools and techniques |
| program documentation | 软件开发文档编写 | Documentation that is carried on throughout all the six programming steps |
| program flowchart | 流程图 | A graphical representation of the steps needed to solve a programming problem |
| program maintenance | 软件维护 | Designed to ensure that the program operates correctly, efficiently, and effectively |
| program module | 软件模块 | A program’s processing steps (see also module) |
| program specification | 软件分析 | Requires that five items be specified for the program: the program’s objectives, the desired output, the input data required, the processing requirements, and the documentation (see also program definition, program analysis) |
| programmer | 程序员 | A person who creates, tests, and troubleshoots programs used by computers along with providing documentation |
| programming | 写程序 | A six-step procedure for programs (see also software development) |
| programming language | 程序设计语言 | Uses a collection of symbols, words, and phrases that instruct a computer to perform specific operations Range for lower level to higher levels |
| pseudocode | 伪码 | An outline of the logic of the program |
| query language | 查询语言 | A fourth-generation language that uses certain easily understood commands to search and generate reports from a database |
| repetition structure | 循环结构 | A loop structure that describes a process that may be repeated as long as certain conditions remain true |
| selection structure | 选择结构 | A logic structure that occurs when a decision must be made (see also IF-THEN-ELSE structure) |
| sequential structure | 顺序结构 | One program statement follows another |
| software development | 软件开发 | Programming is also known as software development |
| software development life cycle (SDLC) | 软件开发生命周期 | A six-step process for creating new programs |
| software engineer | 软件工程 | Also known as programmers; create software required for information systems |
| software updates | 软件升级 | Significant patches to a program/software |
| source code | 源代码 | The programmer’s procedural language program, |
| structured program | 结构化程序设计 | Enables to code effective programs by using the logic structures |
| structured programming technique | 结构化程序设计技术 | Technique that consist of top-down program design, pseudocode, flowcharts, and logic structures |
| syntax error | 语法错 | A violation of the rules of the programming language |
| task-oriented language | 面向任务语言 | A programming language designed to solve specific problems; 4GL |
| third-generation language (3GL) | 第三代语言 | Programming languages designed to express the logic that can solve general problems (see also procedural language) |
| top-down program design | 自上而下程序设计 | Major processing steps called program modules are identified |
| user | 用户 | A person who uses the software to provide the necessary outputs |
| very high-level language | 超高级语言 | Designed to solve specific problems (see also problem-oriented languages, fourth generation language) |