英译汉

1. We have learned that all computers have similar capabilities and perform essentially the same functions, although some might be faster than others. We have also learned that a computer system has input, output, storage, and processing components.  
   我们已经了解到，所有计算机都具有相似的功能，执行基本相同的功能，尽管有些计算机可能比其他计算机更快。我们还了解到，计算机系统有输入、输出、存储和处理组件。
2. All programs and data must be transferred to primary storage from an input device or from secondary storage (such as a disk) before programs can be executed or data can be processed.  
   在执行程序或处理数据之前，所有程序和数据必须从输入设备或辅助存储器（如磁盘）传输到主存储器
3. The internal operation of a computer is interesting, but there really is no mystery to it. The mystery is in the minds of those who listen to hearsay and believe science-fiction writer.  
   计算机的内部操作很有趣，但其实并不神秘。那些听信道听途说、相信科幻小说作家的人，心中充满了神秘。
4. Therefore, after a program has been executed, the storage space it occupied is reallocated to another program awaiting execution.  
   因此，在一个程序被执行后，它所占用的存储空间被重新分配给另一个等待执行的程序。
5. Another name for primary storage is random-access memory, or RAM. A special type of primary storage, called read-only memory (ROM), cannot be altered by the programmer.  
   主存储器的另一个名称是随机存取存储器（RAM）。一种称为只读存储器（ROM）的特殊类型的主存储器不能由程序员更改。
6. The EEPROM combines the advantage of nonvolatility with the flexibility of being updatable in place, using ordinary bus control, address, and data lines.  
   EEPROM结合了非易失性的优点和可就地更新的灵活性，使用普通总线控制、地址和数据线。
7. Another form of semiconductor memory is flash memory (so named because of the speed). Flash memory is intermediate between EPROM and EEPROM in both cost and functionality.  
   半导体存储器的另一种形式是闪存（因其速度而得名）。闪存在成本和功能上介于EPROM和EEPROM之间。
8. Program and data are loaded to RAM from secondary storage because the time required to access a program instruction or piece of data from RAM is significantly less than from secondary storage.  
   程序和数据从辅助存储器加载到RAM，因为从RAM访问程序指令或数据段所需的时间明显少于从辅助存储器访问程序指令或数据段所需的时间。
9. The goal was to develop a small, reliable, portable, distributed, real-time, operating platform. When the project started, C+++ was the choice.  
   目标是开发一个小型、可靠、便携、分布式、实时的操作平台。项目开始时，C++是首选。
10. Together, the above requirements comprise quite a collection of buzzwords, so let's examine some of them and their respective benefits before going on.  
    总之，上面的需求包含了大量的流行语，所以在继续之前，让我们先看看其中的一些以及它们各自的优点。
11. But over time the difficulties encountered with C++ grew to the point where the problems could best be addressed by creating an entirely new language platform.  
    但是随着时间的推移，C++遇到的困难越来越大，问题是通过创建一个全新的语言平台来解决问题。
12. The Java system that emerged to meet these needs is simple, so it can be easily programmed by most developers; familiar, so that current developers can easily learn Java; object oriented, to take advantage of modern software development methodologies and to fit into distributed client-server applications.  
    为满足这些需求而出现的Java系统非常简单，因此大多数开发人员都可以轻松编程；熟悉，使目前的开发人员可以轻松学习Java；面向对象，利用现代软件开发方法，并适合分布式客户机-服务器应用程序。
13. Developing your applications using Java results in software that is portable across multiple machine architectures, operating systems, and graphical user interfaces[5], secure, and high performance.  
    使用Java开发应用程序可使软件跨多个机器体系结构、操作系统和图形用户界面进行移植，并具有安全性和高性能。
14. With Java, your job as a software developer is much easier—you focus your full attention on the end goal of shipping innovative products on time, based on the solid foundation of Java.  
    通过java，你的软件开发人员的工作要更容易，你要把注意力集中在基于java的坚实基础上按时交付创新产品的最终目标。
15. Another reason commonly given that languages like Lisp, TCL, and SmallTalk are good for prototyping is that they don't require you to pin down decisions early on—these languages are semantically rich.  
    另一个通常认为Lisp、TCL和SmallTalk等语言有利于原型设计的原因是，它们不需要您在这些语言语义丰富的情况下尽早确定决策。
16. You can write method invocations and, if you get something wrong, you get told about it at compile time. You don't have to worry about method invocation error.  
    你可以编写方法调用，如果你出错了，你会在编译时被告知。您不必担心方法调用错误。
17. UNIX evokes a wide range of emotions: loved by some for its power and flexibility, despised others for its complex and arcane commands. UNIX has established a checkered reputation in the world of computing.  
    UNIX引发了广泛的情感：一些人喜欢它的强大和灵活性，而另一些人则鄙视它复杂而神秘的命令。UNIX在计算世界上建立了一个棋盘格的声誉。
18. While UNIX was essentially limited to use by software professionals at universities and in applications development houses, its complex command-line syntax and resulting flexibility were considered an advantage rather than a problem.  
    虽然UNIX基本上仅限于大学和应用程序开发公司的软件专业人员使用，但其复杂的命令行语法和由此产生的灵活性被认为是一种优势，而不是一个问题
19. But this same flexibility also creates a major drawback for using UNIX in a business-oriented market — the more flexible a system is, the more difficult it becomes to learn and operate.  
    但同样的灵活性也造成了在面向业务的市场中使用UNIX的一个主要缺点——系统越灵活，学习和操作就越困难。
20. While binary compatibility is not yet available, it is getting easier to share data and applications across different machines.  
    虽然二进制兼容性尚不可用，但跨不同机器共享数据和应用程序变得越来越容易。
21. Compared with most operating system sources, UNIX code is quite portable. It's written in C as opposed to assembly language, making it possible to move UNIX to different architectures.  
    与大多数操作系统源代码相比，UNIX代码具有很强的可移植性。它是用C语言编写的，而不是用汇编语言编写的，因此可以将UNIX移动到不同的体系结构中。
22. But a UNIX port to a new system is not a trivial matter, often taking several man-years of work, and can result in glitches and malfunctions which may create very subtle inconsistencies in performance. These bugs are often difficult to identify and correct.  
    但是，新系统的UNIX端口不是一件小事，通常需要几人几年的工作，并且可能会导致小故障和故障，这可能会在性能上造成非常微妙的不一致。这些错误通常很难识别和纠正。
23. If the OS lacks certain desirable features, having the resources in-house greatly enhances a company's ability to make necessary changes.  
    如果操作系统缺乏某些令人满意的功能，那么拥有内部资源将大大增强公司进行必要更改的能力。
24. Many networks exist in the world, often with different hardware and software. People connected to one network often want to communicate with people attached to a different one.  
    世界上有许多网络，往往有不同的硬件和软件。连接到一个网络的人通常希望与连接到另一个网络的人通信。
25. A common form of Internet is a collection of LANs connected by a WAN. The Internet (note uppercase I) means a specific worldwide internet that is widely used to connect universities, government offices, companies, and of late, private individuals.  
    因特网的一种常见形式是由广域网连接的局域网的集合。互联网（注：大写I）是指广泛用于连接大学、政府机关、公司和最近的个人的特定全球互联网。
26. By 1995, there were multiple backbones, hundreds of mid-level (i.e. regional) networks, tens of thousands of LANs, millions of hosts, and tens of millions of users.  
    到1995年，有多个主干网、数百个中级（即区域）网络、几万个局域网、数百万台主机和数千万用户。
27. The World Wide Web is an architectural framework for accessing linked documents spread out over thousands of machines all over the Internet.  
    万维网是一个体系结构框架，用于访问分布在因特网上数千台机器上的链接文件。
28. Each page may contain links (pointers) to other, related pages [4], anywhere in the world. Users can follow a link (e.gv by clicking on it), which when takes them to the page pointed to.  
    每页可能包含指向世界任何地方其他相关页[4]的链接（指针）。用户可以通过点击链接（e.gv）进入指向的页面。
29. This process can be repeated indefinitely, possibly traversing hundreds of linked pages while doing so. Pages that point to other pages are said to use hypertext.  
    这一过程可以无限期地重复，这样做时可能会遍历数百个链接页面。指向其他页面的页面称为使用超文本。
30. The protocol that defines the legal requests and replies is called HTTP. A simple example using it may provide a reasonable idea of how Web servers work.  
    定义合法请求和答复的协议称为HTTP。使用它的一个简单示例可以提供Web服务器如何工作的合理想法。
31. Once your Web browser is open and connected to the Internet, the page currently designated as your browser's starting page or home page will be displayed within the browser window.  
    打开Web浏览器并连接到Internet后，当前指定为浏览器起始页或主页的页面将显示在浏览器窗口中。
32. To change from the starting Web page to a new Web page, you can type the appropriate URL in the browser's address bar or location bar and press Enter. You can either edit the existing URL or delete it and type a new one.  
    要从起始网页更改为新网页，可以在浏览器的地址栏或位置栏中键入相应的URL，然后按Enter键。您可以编辑现有URL，也可以将其删除并键入新URL。
33. Let us consider an enterprise, such as an airline, that has a large amount of data kept for long periods of time in a computer. This data might include information about passengers, flights, aircraft, and personnel, for example.  
    让我们考虑一个企业，比如一家航空公司，它有大量的数据在计算机中保存了很长一段时间。例如，这些数据可能包括有关乘客、航班、飞机和人员的信息。
34. Data, such as the above, that is stored more-or-less permanently in a computer we term a database. The software that allows one or many persons to use and/or modify this data is a database management system (DBMS).  
    在我们称为数据库的计算机中或多或少永久存储的数据，如上述数据。允许一人或多人使用和/或修改此数据的软件是数据库管理系统（DBMS）。
35. The primary goal of a DBMS is to provide an environment that is both convenient and efficient to use in retrieving information from and storing information into the database.  
    DBMS的主要目标是提供一个既方便又高效的环境，用于从数据库中检索信息和将信息存储到数据库中。
36. One user program may not require all the data in the database. Hence the user/ application programs view only the required information from the database.  
    一个用户程序可能不需要数据库中的所有数据。因此，用户/应用程序只查看数据库中所需的信息。
37. Also it is not necessary that different views should contain altogether different data. There can be common information in different views.  
    此外，不同的视图不必包含完全不同的数据。在不同的视图中可以有共同的信息。
38. The conceptual level describes the entire database. It is used by database administrators, who must decide what information is to be kept in the database.  
    概念层描述整个数据库。它由数据库管理员使用，他们必须决定在数据库中保存哪些信息。
39. A data model is a collection of conceptual tools for describing data, data relationships, data semantics and data constraints. The data models are divided into three classes, viz., object-based logical models, record-based logical models and physical data models.  
    数据模型是用于描述数据、数据关系、数据语义和数据约束的概念工具的集合。数据模型分为三类，即基于对象的逻辑模型、基于记录的逻辑模型和物理数据模型。
40. Many different models are available to describe object-based logical models. The most important among them are semantic data model and entity-relationship model.  
    有许多不同的模型可用于描述基于对象的逻辑模型。其中最重要的是语义数据模型和实体关系模型。
41. Al is a branch of computer science concerned with the study and creation of computer systems that exhibit some form of intelligence: systems that learn new concepts and tasks, systems that can reason and draw useful conclusions about the world around us, systems that can understand a natural language or perceive and comprehend a visual scene, and systems that perform other types of feats that require human types of intelligence.  
    Al是计算机科学的一个分支，研究和创造具有某种智能形式的计算机系统：学习新概念和任务的系统，能够对我们周围的世界进行推理并得出有用结论的系统，能够理解自然语言或感知和理解视觉场景的系统，以及完成其他需要人类智能的壮举的系统。
42. Like other definitions of complex topics, an understanding of Al requires an understanding of related terms such as intelligence .knowledge, reasoning, thought, cognition, learning and a number of computer-related terms.  
    与其他复杂主题的定义一样，理解Al需要理解相关术语，如智力、知识、推理、思维、认知、学习和许多计算机相关术语。
43. Systems have already been developed to perform many types of intelligent tasks, and expectation are high for near term development of even more impressive systems.  
    已经开发出可执行多种智能任务的系统，人们对近期开发更令人印象深刻的系统寄予厚望。
44. We now have systems which can learn from examples, from being told, from past related experiences, and through reasoning.  
    我们现在有了一些系统，可以从例子中学习，从被告知中学习，从过去的相关经验中学习，并通过推理学习。
45. These include the ability to recognize and remember numerous diverse objects in a scene, to learn new sounds and associate them with objects and concepts, and to adapt readily to many diverse new situations.  
    这包括识别和记忆场景中大量不同对象的能力，学习新声音并将其与对象和概念关联的能力，以及随时适应许多不同的新情况的能力。
46. Even though one can argue that all programs exhibit some degree of intelligence, an Al program will go beyond this in demonstrating a high level of intelligence to a degree that equals or exceeds the intelligence required of a human in performing some task.  
    尽管有人认为所有程序都表现出一定程度的智能，但Al程序将超越这一点，表现出相当于或超过人类在执行某项任务时所需智能的高水平智能。
47. But in Al the goal is to develop working computer systems that are truly capable of performing tasks that require high levels of intelligence. The programs are not necessarily meant to imitate human senses and thought processes.  
    但总的来说，目标是开发真正能够执行需要高度智能的任务的工作计算机系统。这些程序不一定是为了模仿人类的感官和思维过程。
48. Divide-and-conquer is a design strategy which is well known for breaking down efficiency barriers. When the method applies, it often leads to a large improvement in time complexity.  
    分而治之是一种以打破效率壁垒而闻名的设计策略。当该方法应用时，通常会导致时间复杂度的大幅提高。
49. One notable algorithm employing this strategy is the fast Fourier transform, which is used in the physical sciences for transforming a function of time into a function of frequency.  
    采用这种策略的一个著名算法是快速傅里叶变换，它在物理科学中用于将时间函数转换为频率函数。
50. The divide-and-conquer strategy is as follows: divide the problem instance into two or more smaller instances of the same problems, solve the smaller instances recursively, and assemble the solutions to form a solution of the original instance.  
    分而治之的策略如下：将问题实例划分为同一问题的两个或多个较小实例，递归求解较小实例，并将解组合成原始实例的解。

汉译英

1. 三个部件一主内存，控制单元和计算逻辑单元一一起工作。让我们看看它们的功能和它 们之间的联系。  
   These three-primary storage, the control unit, and the arithmetic and logic unit-work together. Let look at their functions and the relationships between them.
2. 不同于辅助存储器，如磁带和硬盘，主内存没有运转部件。

Unlike magnetic secondary storage devices, such as tape and disk, primary storage has no moving parts.

1. 程序指令或一片数据是存储在主存中一个特殊的位置，称为地址空间。

A program instruction or a piece of data is stored in a specific primary storage location called an address.

1. 一种特殊的主存储器类型，称为只读存储器（ROM）,不能被程序更改。

A special type of primary storage, called read-only-memory (ROM), cannot be altered by the programmer.

1. 目标是开发一个小的，可靠的，可移植的，分布式的，实时的操作平台。当项目开始时, 精选的语言是C++语言。

The goal was to develop a small, reliable, portable, distributed, real-time operating platform. When the project started, C++ was the language of choice.

1. 但随着时间的推移，C++出现了很多问题，最好的解决是开发一个全新的语言平台。

But over time the difficulties encountered with C++ grew to the point where the problems could best be addressed by creating an entirely new language platform.

1. 总的来说，上述包括相当多的专业术语，所以在继续之前先让我们来认识一下它们以及 它们各自的好处。

Together, the above requirements comprise quite a collection of buzzwords, so let’s combined them and their respective benefits before going on.

1. 他们在这成功的其中一个原因是：他们非常强大，您不需要担心内存的释放或者损坏。

One of the reasons for their success at this is that they are very robust-you don’t have to worry about freeing or corrupting memory.

1. 同样的，程序员在使用Java编程的时候可以相对地不用担心存储问题。

Similarly, programmers can be relatively fearless about dealing with memory when programming in Java.

1. Java具有完全相反的性质，它强制你做出明确的选择。

Java has exactly the opposite property: it forces you to make explicit choices.

1. UNIX引起了各种各样的情绪：因其能力和灵活性而受到一些人的青睐，但因其复杂且神 秘的命令而受到另一些人的藐视。UNIX evokes a wide range of emotions: loved by some for its power and flexibility,despised by others for its complex and arcane command.UNIX has established a checkered reputation in the world of computing.
2. 与多数操作系统源码相比，UNIX代码容易移植。它用C语言编写，而不用汇编语言， 使得UNIX能移植到不同的体系结构上。  
   Compared with most operating system sources,UNIX code is quite portable.It is written in C as opposed to assembly language,making it possible tomove UNIX to different architectures.
3. 但是在面向商业的市场中使用UNIX,相同的灵活性却产生了一个主要的缺点，系统越 灵活，它就变得越难学会和操作。  
   But this same flexibility also creates a major drawback for using UNIX in a business-oriented market the more flexible a system is,the more difficult it becomes to learn and operate.
4. 在另一方面，具有新的或修改特性的操作系统定制版本，在日后可能出现与更新的版本 或购买的应用程序不兼容的问题。  
   On the other hand,the customized version of the operating system,with its new or modified features may later present compatibility problems with newer releases or purchased applications.
5. 互连网络的集合被称为互联网络或只是因特网。一种常见的形式的网络是通过一个广域 网连接的局域网的集合。   
   A collection of interconnected networks is called an internetwork or just Internet. A common form of Internet is a collection of LANs connected by a WAN.
6. 大部分的增长来自现有网络连接到因特网。  
   Much of the growth comes from connecting existing networks to the Internet.
7. 电子邮件。可以让你发送信息到俄罗斯，日本等等。文件传输协议。从全球几千台计算 机中免费下载文件。  
   Email. Let you  send messages to Russia, Japan and so on. File Transfer Protocol. Download files for free of charge from thousands of computers around the globe.
8. 每一页可能包含链接到一些在世界任何地方的其他的相关的页面的链接。  
   Each page may contain links (pointers) to other related page ,anywhere in the world.
9. 用户可以跟踪一个链接（例如，通过点击它），然后带他们到所指向的页面。Users can follow a link (for example, by clicking on it) which then takes them to the page pointed to.
10. 指向其他一些页面的页面被称为使用超文本。当超文本与其他媒体混合，其结果就称为多媒体。Pages that point to other pages are said to use hypertext. When hypertext pages are mixed with other media, the result is called hypermedia.
11. 在一个连接已建立后，客户端发送一个请求和服务器发送一个回复。然后连接被释放了。  
    After a connection has been established, the client sends one request and the server sends one reply. Then the connection is released.
12. 那个定义合法的请求和回复的协议叫做HTTP。  
    The protocol that defines the legal requests and replies is called HTTP.
13. 你既可以编辑存在的URL也可以删除它然后输入一个新的。You can either edit the existing URL or delete it and type a new one.
14. 如果这里有一个显示了你想要去的页面的链接，简单点击链接即可。  
    If there is a hyperlink displayed for the page you would like to go to, simply click on the link.
15. 新页面的URL也会显示在浏览器的状态栏。一旦你点击了超链接，合适的页面被显示。  
    The URL for the new page is also displayed on the browser’s status bar. Once you click the hyperlink, the appropriate page is displayed.
16. 当你在浏览万维网时，你将在网页上遇到各种各样的不同的对象。  
    You will encounter a variety of different objects on Web pages as you explore the World Wide Web.
17. 我们把上述那样的不同程度地长久存储在计算机中的数据称为数据库。  
    Data, such as the above, that is stored more-or less permanently in a computer we term a database.
18. DBMS的主要目标是提供这样的环境，从数据库中检索信息和把信息存储在数据库中既 方便，又高效。  
    The primary goal of a DBMS is to provide an environment that is both convenient and efficient to use in retrieving information from and storing information into the database.
19. 最低层，即物理层，把数据存储在硬件设备上。  
    The lowest level, i.e., the physical level has the data stored on hardware devices.
20. 外部层按外部或用户程序的需要定义数据库的不同视图。  
    The external level defines the different view of the database as required by the external or user programs.
21. 概念层描述整个数据库。它被数据库管理员使用，必须决定什么信息保存在数据库中。  
    The conceptual level describes the entire database. It is used by database administrators, who must decide what information is to be kept in the database.
22. 数据模型是一组概念工具，用来描述数据、数据关系、数据语义和数据约束。  
    A data model is a collection of conceptual tools for describing data, data relationships, data semantics and data constraints.
23. 数据模型分成三类，就是基于对象的逻辑模型、基于记录的逻辑模型和物理数据模型。  
    The data models are divided into three classes, viz., object-based logical models, record-based logical models and physical data models.
24. 基于对象的逻辑模型用于描述概念层与视图层的数据。它们非常接近于人的逻辑。  
    Object-based logical models are used for describing data at the conceptual and view levels. They are very close to human logic.
25. 相同类型的所有实体集合和相同类型的关系分别称为实体集合和关系集合。  
    The set of all entities of the same type and relationships of the same type are termed as entity set and relationship set respectively.
26. 对于涉及两个实体集合的关系，可能存在像一对一、一对多、多对一和多对多那样的关系。  
    For relationship like one-to-one, one-to many, many-to-one and many-to-many.
27. AI是计算机科学的一个分支，它涉及研究和创建显示某种形式智能的计算机系统：学习 新概念和新任务的系统、能关于我们周围的世界进行推理和得出有用结论的系统。  
    AI is a branch of computer science concerned with the study and creation of computer systems that exhibit some form of intelligence: systems that learn new concepts and tasks,systems that can reason and draw useful conclusions about the world around us.
28. 尽管我们对于这些术语中很多术语缺少精确的科学定义，但我们能够给出它们的大体定义。  
    While we lack precise scientific definitions for many of these terms, we can give them general definitions of them.
29. 我们现在有一些系统能从例子中、从被告知中、从过去相关经验中和通过推理学习。  
    We now have systems which can learn from examples, from being told,from past related experiences, and through reasoning.
30. 我们有一些系统能看得足够清楚从照片、视频照相机和其他传感器中识别物体。  
    We have systems which can see well enough to “recognize” objects from  photographs, video cameras, and other sensors.
31. 显然，关于这些开发，自数字计算机问世以来，很多已完成了。  
    Clearly, with these developments much has been accomplished since the advent of the digital computer.
32. 在我们能期望比得上三岁小孩的性能之前，它们将需要一些重要的突破。  
    They will require important breakthroughs before we can expect to equal the performance of a three-year-old.
33. 但是AI的目标是开发一些运转的计算机系统，真正能执行一些需要高级智能的任务。  
    But in AI the goal is to develop working computer systems that are truly capable of performing tasks that require high levels of intelligence.
34. 分治法是一种设计策略，它因排除了效率障碍而为大家所知。  
    Divide-and-conquer is a design strategy which is well known for breaking down efficiency barriers.
35. 应用这个方法时，它导致在时间复杂度有较大的改进。  
    When this method applies, it often leads to a large improvement in time complexity
36. 这两个函数都是用它们在许多点上的值来定义的。  
    Both functions are defined in terms of their values at many points.
37. 分治法的策略如下：将问题实例分成相同问题的两个或更多的小实例。  
    The divide-and-conquer strategy is as follows: divide problem instance into two or more smaller instances of the same problems
38. 当一实例小到不能再分时，递归就停止。  
    The recursion stops when a instance is reached which is too small to divide.
39. 在划分实例时，人们可以使用任何一种最易找到的划分，也可以花时间仔细地进行划分, 使得组合各个解时更容易。  
    When dividing instance, one may either use whatever division comes most easily to hand, or invest time in making the division carefully so that the assembly is simplified.
40. 这十分简单的反映了矩阵乘法的定义，并且我们通常认为不可能再改进了。  
    It very simply reflects the definition of matrix multiplication,and we naturally expect that it can be improved upon.