

Translate the terms and phrases in Column A into Chinese in Column B.
(Page 8-9)

Column A

output device

Input device

system unit

hardware

storage device

communications device

Column B

输出设备

输入设备

主机

硬件

存储器

通信设备

Read the following paragraph and fill in the blanks with the given terms or phrases. (Page 9)

output device;

input device;

system unit;

hardware;

storage device;

communications device

The electric, electronic, and mechanical components of a computer, or hardware, include input devices, output devices, a system unit, storage devices, and communications devices. An input device allows you to enter data or instructions into a computer. An output device conveys information to one or more people. The system unit is a case that contains the electronic components of a computer that are used to process data. A storage device records and/or retrieves items to and from storage media. A communications device enables a computer to send and receive data, instructions, and information to and from one or more computers.

Fill in the blank in each sentence with a word taken from the box in its appropriate form.
(Page 9)

divide specialize modify consider involve overlap integrate access

1. Human–computer interaction considers the challenges in making computers and computations useful, usable, and universally accessible to humans.
2. This robot specializes in human speech recognition .
3. The first computer to use integrated circuits in its construction was the IBM 360, which appeared in 1964.
4. The study of computer science overlaps with many other disciplines.
5. In 1673, the German mathematician Gottfried Leibniz developed a considerably more sophisticated device.
6. The computing machine was capable of multiplication and division as well as addition and subtraction.
7. With some design modifications, the latest computer could perform some intricate calculations
8. Computer architects are often involved with the engineering of a new computer because the accuracy of their models depends on the design of the computer’s circuitry.

Translate the following paragraph into English. (Page 9-10)

计算机科学兴起于20世纪40年代，是一门相对年轻的**学科**。计算机科学可以被看作一门解决问题的科学，与其他学科**有着密切的关联**。工程学、农学、商科、医学及其他学科的很多问题都可以通过计算机**得到有效解决**。**迄今为止**，对计算机科学各个领域的研究已经**衍生出**许多新的学科，其中既有各种**理论研究性的学科**，也有**实际操作性的学科**，主要**分为**五个方面：软件开发、计算机结构或硬件研究、人机交互、人工智能以及机器人研究。

Reference Translation (Page 9-10)

Computer science is a relatively young **discipline** that begins in the 1940s. It can be seen as a science of problem solving and **has strong associations with** other disciplines. Many problems in engineering, agriculture, business, medicine, and other fields can **be solved effectively** with computers. **Up to now**, it has **sprouted** numerous **branches** of research that are unique to the discipline. Its fields can be divided into a variety of **theoretical and practical disciplines**. Computer science can **be divided into** five main fields, namely software development, computer architecture or hardware, human-computer interfacing, artificial intelligence and robotics.

Use the words from the box to complete the following sentences. Change the form if necessary. (Page 28)

impose impact implant input interval insert

1. Restrictions are imposed on the access to the data.
2. It is unclear that how the publicity of the data will impact on their work.
3. Most people need to read something several times before it is implanted in their memory.
4. We're currently inputting the names and addresses of all our customers into a database.
5. The outdated system of his computer breaks down at irregular intervals.
6. He inserted an optical disk into the computer and tried to retrieve the data in it.

Fill in the blank in each sentence with a word taken from Text A. (Page 29)

1. Data is a collection of unprocessed items, which can include text, numbers, images, audio, and video.
2. A computer keeps data, instructions, and information on storage media.
3. Storage devices often function as a source of input because they transfer items from storage to memory.
4. A USB flash drive is a portable storage device that is small and lightweight enough to be transported on a keychain or in a pocket.
5. A hard disk provides much greater storage capacity than a USB flash drive.
6. A compact disc is a flat, round, portable metal disc with plastic coating.
7. Storage requirements among users vary greatly.
8. Regardless of how many differences there are between data science and data ananalytics, the biggest is that data science follows a structured, step-by-step process that, when followed, preserves the integrity of the results.

Translate the following paragraph into English. (Page 29)

数据指的是一些**未经处理的**资源，包括文档、数字、图片、音频和视频等。计算机对这些数据进行**加工**，把它们变成能够**传达**意义的信息，对人们有所用处。计算机可以**存储海量**数据，并能**随时按需**对其进行处理。计算机内的数据、**指令**和信息都保存在**存储媒介**上，像优盘、硬盘、云盘等都属于存储媒介。计算机上的**存储设备**把数据写进存储媒介的过程是**输出过程**。同样，存储设备从存储媒介里读取数据的过程是**输入的过程**。

Reference Translation (Page 29)

Data is **a collection of unprocessed** items, which can include text, numbers, images, audio, and video. Computers **process** data into information. Information **conveys** meaning and is useful to people. Computers **store enormous amounts of** data and make this data available for processing **anytime it is needed**. A computer keeps data, **instructions**, and information on **storage media**. Examples of storage media are USB flash drives, hard disks, and online storage, etc. when **storage devices** write data on storage media, they are creating **output**. Similarly, when storage devices read from storage media, they function as a source of **input**.

Match the Chinese on the left and right with the English words in the middle and compare their meanings. (Page 46)

①进入

③

background E

A. 字体

②种类

⑥

relay C

B. 条目

③后台

⑤

resolution F

C. 继电器

④取回

①

entry B

D. 检索数据

⑤决心

②

type A

E. 背景

⑥接力赛

④

retrieve D

F. 分辨率

Fill in the blanks of the following sentences with appropriate words given in the box. Change the form if necessary. (Page 47)

background relay resolution entry type retrieve

1. Visitors to the website are able to look up a place name and see the index entry made for the manor (庄园), town, city or village.
2. The online shopping program allows you to retrieve items quickly by searching under a keyword.
3. Turning off some of these background programs can significantly increase your computer's performance and reliability.
4. Perhaps this flowchart makes everything easier to understand, and you can click it for better resolution.
5. Use bold type for emphasis, use spaces between lines and points so that it's easy to see the essence of your message at a glance.
6. The relay units will send information on a number of open spots to a centralized computer via dedicated fast lines.

Fill in the blank with the words below. Change the form if necessary. Each word can be used only once.

(Page 47)

automated

conceive

massive

sophisticated

primitive

intervention

criterion

simulate

1. The methods of communication used during the war were primitive by today's standards.
2. The database server is hidden; there is no database administrator, and no direct manual intervention is possible.
3. While many of these management functions are likely to be offered as automated services in the future, at present, they generally require some human intervention by the service provider.
4. There is a long way to go, of course, before computational anthropologists can accurately simulate human societies.
5. There's no longer any question that large architectural projects call for sophisticated computer-aided design systems for their execution.
6. In order to store and access the massive data, the storage hardware and network infrastructure is required.
7. The basic principle of the modern computer—the idea of controlling the machine's operations by means of a program of coded instructions stored in the computer's memory—was conceived by Alan Turing.
8. The ease with which information can be retrieved from a site ranks highly among criterion by which users rate a web site.

Try to add the prefix “sub” to the words below and fill in the blanks with them. Change the form if necessary. (Page 48)

title

marine

way

divide

conscious

1. The ongoing upgrade to the New York City subway will replace its older cars with automated cars, each of which will contain multiple computer systems.
2. Subconscious mind is widely considered by many as the most powerful part of our brain that is capable of doing multiple tasks at a time. And that ability can challenge the artificial intelligence of our times.
3. This is a complex and interesting topic, but the subtitle of the article really killed it.
4. In computer graphics and animation (动画制作), subdivision surfaces are widely used to create visually appealing 3D models.
5. The Enigma machine, used by a German submarine to encode and decode messages passing between shore command and ships at sea, was taken to England, where computer pioneer Alan Turing and his team succeeded in breaking the naval code.

Translate the following paragraph into English. (Page 48)

超级Application (APP) 是指以社交或打车应用软件为基础，提供数百万个小程序的应用软件。例如，在使用社交软件时打开电商的小程序，就可以像使用普通软件一样购物。还可以通过小程序支付、订餐、购物、预订酒店等。小程序无需下载。对于提供APP的企业而言，小程序比下载麻烦的普通程序更容易增加获得用户的机会。

Reference Translation (Page 48)

A super app is an application built on the basis of a **social media** or **ride-hailing** platform that offers millions of **mini-programs**. For example, when using a social media app, users can open an e-commerce mini-program and shop just as they would in **a regular standalone app**. Through these mini-programs, users can also **make payments, order food, shop, book hotels** and so on. Mini-programs do not need to be downloaded. For companies that provide such apps, mini-programs make it easier to **attract users** than ordinary apps, which require a more **cumbersome** download process.

Match the words in Column A with their explanations in Column B, and translate them into Chinese. (Page 123)

Column A

Chinese

Column B

- f 1. node
- c 2. transmission
- a 3. terminal
- g 4. switch
- b 5. traffic
- h 6. protocol
- d 7. layer
- e 8. compatibility

结点; 节点

信号传输

终端

开关; 交换机

信息流量;
通信 (量)

(数据传递的) 协议

层

兼容性

- a. a piece of equipment consisting of a keyboard and a screen that are used for putting information into a computer or getting information from it
- b. the movement of messages and signals through an electronic communication system
- c. the act or process of sending out an electronic signal or message
- d. a level or part within a system
- e. the ability of machines, especially computers, and computer programs to be used together
- f. a point at which two lines or systems meet or cross
- g. a small device that you press or move up and down in order to turn a piece of electrical equipment on and off
- h. a set of rules that control the way data is sent between computers

Fill in the blank with the words below. Change the form if necessary. Each word can be used only once.

(Page 123-124)

node transmission terminal switch traffic protocol layer compatibility

1. Using the same protocol with similar functionality as in a local area network translates into simplicity.
2. New code was added to Maya to remove the requirement for hardware overlay in order to provide compatibility even with non-accelerated drivers.
3. The receiver demodulates the wireless signal and ships it on to the customer's terminal equipment.
4. For environments that do not allow File Transfer Protocol (FTP) traffic out to the Internet, the DS8870 also supports offload of data by using Secure Socket Layer (SSL) security.
5. It proves its efficiency for the development of multilayer software architectures, where each layer provides a service to the upper layer.
6. The website also suggested that a built-in kill switch could be used to remotely kill and remove malware.
7. Once a node reads data from storage, that data may remain in cache for some period of time, to accelerate future calls to that information.
8. These applications include collection, storage, and transmission or transport of accumulated data, typically in very large sets.

Complete the following sentences with the expressions given below. Change the form if necessary. (Page 124)

come into picture	take place	derive from	depend	shed light on
be responsible for	be capable	be connected to	take care of	come into effect

1. While Cyclades was eventually shut down, it did pioneer a key idea: the host computer should be responsible for data transmission rather than the network itself.
2. The EU's new data protection laws came into effect on Friday, with Brussels saying the changes would protect consumers from being like "people naked in an aquarium".
3. The results of this paper shed light on the current state of information security in organizations.
4. The issue of flashing a cell phone comes into picture when you change your network carrier.
5. The online world that most of us have come to depend upon for information, communication, commerce and entertainment is changing in ways that could leave some people paying more for less.

Complete the following sentences with the expressions given below. Change the form if necessary. (Page 124-125)

come into picture	take place	derive from	depend	shed light on
be responsible for	be capable	be connected to	take care of	come into effect

6. To connect computers, each of the computers needs a network card with a connection that allows a cable to be connected to it.

7. What is the final step that should take place when characterizing an existing network?

8. A network is a group of interconnected computers and peripherals that is capable of sharing software and hardware resources between many users.

9. Twitter is increasingly using open source automation tools to ensure security processes are taken care of in all the code it produces.

10. Take a moment and think about how many benefits we are able to derive from the Internet, personal computers, and smartphones.

Translate the following paragraph into English. (Page 125)

从整体上来说，计算机网络就是把**分布在不同地理区域**的计算机与**专门的外部设备**用**通信线路**互联成一个规模大、功能强的系统，从而使众多的计算机可以方便地互相传递信息，共享硬件、软件、数据信息等资源。简单来说，计算机网络就是由**通信线路**互相连接的许多**自主工作的**计算机构成的集合体。最简单的计算机网络就只有两台计算机和连接它们的一条**链路**，即两个**节点**和一条**链路**。

Reference Translation (Page 125)

On the whole, a computer network connects computers **distributed in different geographical areas** with **specialized external equipment** using **communication lines** to form a large-scale and powerful system, so that many computers can easily pass information to each other and share resources such as hardware, software and data information. In simple terms, a computer network is a collection of many **autonomous** computers connected to each other by **communication lines**. In its simplest form, a computer network **consists of** two computers and a **link** connecting them, i.e. two **nodes** and a **link**.

Match the words in Column A with their explanations in Column B, and translate them into Chinese. (Page 139)

Column A

d

1. simulation

a

2. process

e

3. analytics

f

4. set

b

5. chatbot

c

6. virtual

Chinese

模拟; 仿真

数据处理

分析学

小组; 集合

聊天机器人

虚拟

Column B

a. to perform a series of operations on data in a computer

b. a computer program which conducts a conversation via auditory or textual methods

c. made to appear to exist by the use of computer software

d. a situation in which a particular set of conditions is created artificially in order to study or experience sth. that could exist in reality

e. the discovery, interpretation, and communication of meaningful patterns in data

f. a group of mathematical quantities that have some characteristic in common

Match words in Column A with those in Column B to make compound nouns and translate them into Chinese in Column C. (Page 139)

Column A

 E ① feed

 D ② out

 F ③ start

 A ④ work

 G ⑤ plat

 B ⑥ web

 H ⑦ fore

 C ⑧ data

Column B

A. flow

B. site

C. base

D. come

E. back

F. up

G. form

H. front

Column C

反馈

结果

创业公司；启动

工作流程

平台

网站

前列

数据库

Fill in the blank in the following sentences with appropriate compound nouns. (Page 139-140)

feedback outcome startup workflow platform website forefront database

1. Facebook CSO Joe Sullivan says the former NSA contractor Edward Snowden's disclosures brought security to forefront.
2. 70% say a positive outcome resulted from their last major decision in which data played a pivotal role, while 45% say more big data would have helped.
3. With these basic techniques, you can mine the data of any website or information source.
4. Report faults or problems with the IT hardware or software in the computer labs, or to provide feedback on the computer lab facilities.
5. With this router database we want to give to the users a simple tool that allows a fast solution for finding more information and the related downloads.
6. OpenText InfoFusion is an information access platform that gives you new and improved ways to discover, analyze, and act on unstructured information.
7. The upper part of the workflow describes activities to design and implement the safety-related software.
8. These free startup manager software lets you see, delay, disable or otherwise manipulate the programs that start with Windows.

Complete the following sentences with the words given below. Change the form if necessary. (Page 140-141)

simulation	coin	conflate	disrupt	sift	incorporate
encompass	prominence	integrative	subset		

1. Texas has suffered greatly from the trade deficit with China due, largely, to the prominence of the computer and electronic parts industry in the state.
2. The essential idea in simulation is to use a computer system as the raw material for constructing a process model to be studied.
3. Railway is really a complicated integrative system, and communication is an important integrant of such a system.
4. Many people conflate the terms "virus" and "worm", using them both to describe any self-propagating program.
5. The key is to make it easy to get user feedback, then make the program changes necessary to incorporate the new features.

Complete the following sentences with the words given below. Change the form if necessary. (Page 140-141)

simulation	coin	conflate	disrupt	sift	incorporate
encompass	prominence	integrative	subset		

6. My more primitive version still provides you with the concept of a single data structure that can encompass any number of data types.
7. Jaron Lanier coined the term “virtual reality” and pioneered its early development.
8. A computer glitch at a California air traffic control center disrupted flights in the United States for about an hour.
9. Can you think of a project that would expose someone to a broad subset of Computer Science topics and features?
10. These algorithms sift millions of raw 3D data points and convey only the critical information needed for the real-time operations of autonomous systems..

Translate the following paragraph into English. (Page 141)

人工智能是计算机科学的一个分支，它的目的是了解智能的实质，并生产出一种新的、能以人类智能相似的方式做出反应的智能机器，该领域的研究包括机器人、语言识别、图像识别、自然语言处理和专家系统等。人工智能从诞生以来，其理论和技术日益成熟，应用领域也不断扩大，可以设想，未来人工智能带来的科技产品，将会是人类智慧的“容器”。人工智能不是人的智能，但能像人那样思考、也可能超过人的智能。

Reference Translation (Page 141)

Artificial intelligence is a **branch** of computer science. It **attempts to** understand the essence of intelligence and produce a new intelligent machine that can react **in a similar way** to human intelligence.

Research in this field includes **robotics, language recognition, image recognition, natural language processing** and **expert systems**. Since the birth of artificial intelligence, the theory and technology have become increasingly mature, and the field of application has **continued to expand**. **It is conceivable** that the technological products brought by artificial intelligence in the future will be the “containers” of human wisdom. Artificial intelligence is not human intelligence, but it can think like humans and may **exceed** human intelligence.