LINUX

Linux has its roots in a student project. In 1992, an undergraduate called Linus Torvalds was studying computer science in Helsinki, Finland. Like most computer science courses, a big component of it was taught on (and about) Unix. Unix was the wonder operating system of the 1970s and 1980s: both a textbook example of the principles of operating system design, and sufficiently robust to be the standard OS in engineering and scientific computing. But Unix was a commercial product (licensed by AT&T to a number of resellers), and cost more than a student could pay.

Annoyed by the shortcomings of Minix (a compact Unix clone written as a teaching aid by Professor Andy Tannenbaum) Linus set out to write his own 'kernel' - the core of an operating system that handles memory allocation, talks to hardware devices, and makes sure everything keeps running. He used the GNU programming tools developed by Richard Stallman's Free Software Foundation, an organisation of volunteers dedicated to fulfilling Stallman's ideal of making good software that anyone could use without paying. When he'd written a basic kernel, he released the source code to the Linux kernel on the Internet.

Source code is important. It's the original from which compiled programs are generated. If you don't have the source code to a program, you can't modify it to fix bugs or add new features. Most software companies won't sell you their source code, or will only do so for an eye- watering price, because they believe that if they make it available it will destroy their revenue stream.

What happened next was astounding, from the conventional, commercial software industry point of view — and utterly predictable to anyone who knew about the Free Software Foundation. Programmers (mostly academics and students) began using Linux. They found that it didn't do things they wanted it to do - so they fixed it. And where they improved it, they sent the improvements to Linus, who rolled them into the kernel. And Linux began to grow.

There's a term for this model of software development; it's called Open Source (see www. opensource. org/ for more information). Anyone can have the source code - it's free (in the sense of free speech, not free beer). Anyone can contribute to it. If you use it heavily you may want to extend or develop or fix bugs in it - and it is so easy to give your fixes back to the community that most people do so.

An operating system kernel on its own isn't a lot of use; but Linux was purposefully designed as a near-clone of Unix, and there is a lot of software out there that is free and was designed to compile on Linux. By about 1992, the first 'distributions' appeared.

A distribution is the Linux-user term for a complete operating system kit, complete with the utilities and applications you need to make it do useful things — command interpreters, programming tools, text editors, typesetting tools, and graphical user interfaces based on the X windowing system. X is a standard in academic and scientific computing, but not hitherto common on PCs; it's a complex distributed windowing system on which people implement graphical interfaces like KDE and Gnome.

As more and more people got to know about Linux, some of them began to port the Linux kernel to run on non-standard computers. Because it's free, Linux is now the most widely- ported operating system there is.

Adapted from Smooth Operator by Charles Stross, 1998

I – Read the text and answer the following questions

1. What did Linus Torvalds use to write the Linux kernel ?
2. How was the Linux kernel first made available to the general public ?
3. What is a programmer likely to do with source code ?
4. Why will most software companies not sell you their source code ?
5. What type of utilities and applications are provided in a Linux distribution ?
6. What is X ?
7. What graphical user interfaces are mentioned in the text ?

II - Read the text again and match each word with its definition

Kernel – Free Software Foundation – Source code – Open source – A distribution – X

A type of software development where any programmer can develop or fix bugs in the software.

The original systems program from which compiled programs are generated.

A complete operating system kit with the utilities and applications you need to make it do useful things.

A standard distributed windowing system on which people implement graphical interfaces.

An organization of volunteers dedicated to making good software that anyone could use without paying.

The core of an operating system that handles memory allocation, talks to hardware devices, and makes sure everything keeps running.

III - Say if the following statements are true or false and justify by quoting the text

Linux was created in the 1980s.

Minix was created by a university student.

Linux is based on Unix.

Minix is based on Unix.

Linux runs on more types of computer than any other operating system.

IV – In one sentence, give a definition of Linux

V - Give a definition of the following terms

A robust system :

A kernel :

To compile :

Undergraduate :

Portable :

KDE :

VI - Retrouvez la traduction des mots suivants dans le texte.

Racine :

Étudiant en licence :

Informatique :

Merveille :

Système d'exploitation :

Agacé :

Défaut :

Noyau :

Cœur :

Gérer / manipuler :

Jusqu'à présent :

consacré / dévoué :

réaliser :

publier :

réparer :

fonction :

source de revenus :

stupéfiant :

complètement :

améliorer :

délibérément :

outil :