

## 4. Software

### Starter Quiz · 课前小测

IGCSE Computer Science

Name: \_\_\_\_\_ Score: \_\_\_\_\_

1. Which is system software?

- ☐ the operating system
- ☐ a word processor
- ☐ a web browser
- ☐ a spreadsheet

2. A high-level language (like Python):

- ☐ reads like English and runs on different types of computer
- ☐ is written in binary
- ☐ only runs on one CPU
- ☐ is the same as machine code

3. Which is a role of the operating system?

- ☐ managing memory and files
- ☐ spraying ink onto paper
- ☐ storing data magnetically
- ☐ displaying pixels

4. A compiler:

- ☐ translates the whole program at once, then it runs fast without the compiler
- ☐ translates and runs one line at a time
- ☐ stops at the first error
- ☐ must be present every time the program runs

5. An interrupt is:

- ☐ a signal telling the processor something needs attention now
- ☐ a permanent stop of the computer
- ☐ a type of file
- ☐ a network cable

6. A compiler translates the whole program once so it then runs fast without the compiler, whereas an interpreter translates and runs line by line, stopping at the first error — handy while testing.

- ☐ True    ☐ False

7. A hardware interrupt comes from a device (e.g. a printer out of paper), while a software interrupt comes from a program (e.g. dividing by zero) — both make the CPU pause and service the event.

- ☐ True    ☐ False

8. Which is a feature of an IDE?

- ☐ auto-completion and error diagnostics in a code editor
- ☐ a magnetic hard disk
- ☐ a network cable
- ☐ a CPU socket

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**1. the operating system**

The OS (and drivers, utilities) is system software; the others are application software.

**2. reads like English and runs on different types of computer**

High-level languages are easy to read/write and portable; low-level languages are CPU-specific.

**3. managing memory and files**

The OS manages files, memory, peripherals, multitasking, interrupts, the UI and security.

**4. translates the whole program at once, then it runs fast without the compiler**

A compiler translates everything once into a fast stand-alone program; an interpreter goes line by line.

**5. a signal telling the processor something needs attention now**

An interrupt makes the CPU pause, service the event, then resume — for quick reactions.

**6. True**

Compiled code is faster and stand-alone; interpreted code is easier to debug because it stops where the error is.

**7. True**

Interrupts can be hardware, software or user-triggered; in every case the CPU saves state, handles it, then resumes.

**8. auto-completion and error diagnostics in a code editor**

An IDE bundles an editor, translator, run-time, diagnostics, auto-complete and prettyprinting.