

Programming worksheet 1

1/ Read the text about computer programming. Write the number of the paragraph that gives you the information.

- a a description of machine language ☐
- b the greatest problem for computer programmers ☐
- c the names of three high-level computer languages ☐
- d a description of an algorithm ☐
- e different uses of computers in our lives ☐

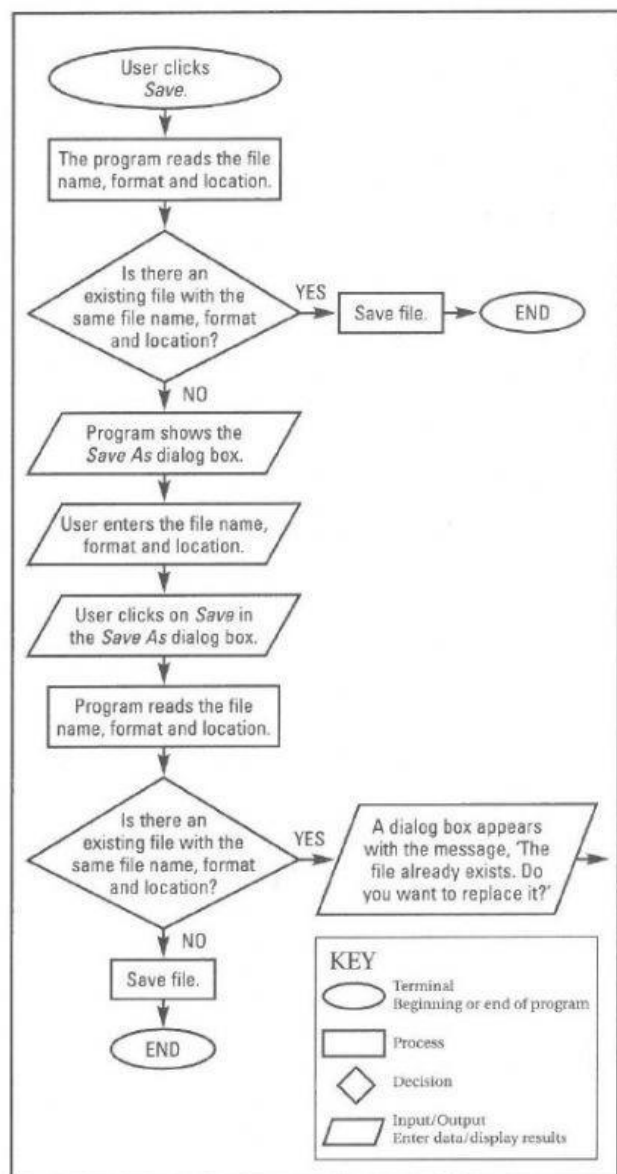
1 The diagram on the right shows part of a simple algorithmic flow chart for the Save command in a computer program. An algorithm is a set of logical rules that we use to solve a problem. Computer programmers often use algorithms to plan their programs, but the only language a computer understands without translation is machine language. This uses the binary system of 1 and 0, which matches the electrical positions 'on' and 'off'. We can also show these numbers in English by *Yes/No* or *True/False*.

2 Machine language is a low-level language and is very difficult to write. Over the years, computer scientists have developed many high-level languages, such as BASIC, C++ and Java. These languages use a computer code that is similar to English, which makes them easier to learn. A computer program is just a set of coded instructions. A computer translates the code into machine language to complete a specific task. A computer receives input, processes data and produces results, or output, according to the program code.

3 We use computers in many parts of our lives, and not just in schools or for the Internet. There are computers in all kinds of electrical devices, from mobile phones to washing machines. We can find them in banks, supermarkets and cars. When programmers write programs, they have to plan carefully for every possible kind of error a computer user can input into the computer. It is planning for the random behaviour of humans that makes programming so much fun.

2/ Look at the algorithmic flowchart below, answer the questions.

- Which computer commands does it show? _____ and _____
- How many decisions does the computer make? _____
- After the user clicks Save, how many times does the user input data? _____



3/ Are these sentences true (T) or false (F)?

- 1 Programmers use algorithms when writing programs.
- 2 Programmers write programs using the numbers 1 and 0.
- 3 Machine language is a high-level language.
- 4 We only find computer programs in computers.

4/ Complete the sentences 1-6 with the words in the box.

according to ■ behaves ■ devices ■ errors ■ input ■ output

- 1 _____ the bank machine, I have no money in my bank account.
- 2 Video and digital cameras are other _____ that use computers.
- 3 _____ is any result a computer displays on a screen or prints from a printer.
- 4 A computer receives _____ from users when they click on a command.
- 5 I made too many _____ in my test so I got a bad grade.
- 6 Not everyone _____ logically when things go wrong with a computer.

5/ Choose the correct word.

- 1 Most people can easily learn a _____ language and become programmers.
a low-level b high-level c binary
- 2 You can use a mouse or keyboard to _____ data into the computer.
a output b input c process
- 3 Some children _____ very badly when they can't have something they want.
a process b solve c behave
- 4 You can draw _____ for many simple procedures.
a an algorithm b a code c data
- 5 Computers _____ programming language into machine language.
a use b develop c translate
- 6 A computer can _____ large amounts of data at very high speeds.
a process b result c complete