

Operating Systems 1 What is an operating system?

What is an OS?

The operating system is the manager of the computer. It manages programs and resources.

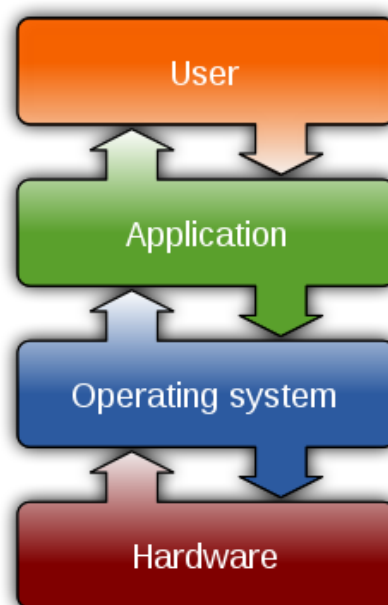
Some basic features of an operating system are:

- Running several applications concurrently in different windows.
- Easy to use graphics interface.
- Use of clipboard to exchange text and graphics data between applications, in particular the integrated use of spreadsheets, word processing and data bases.
- Managing of files: copying, deleting, renaming, creating of folders/directories.

The operating system is the most important system program (two examples of system software are an antivirus and a defragmenter).

The operating system:

- Is always present in the RAM
- Is the first program loaded in the RAM
- The program that loads the program in the RAM is called the Bootstrap Loader.



The operating system is the layer between the application and the hardware

The operating system manages the resources of the computer (these are the CPU, memory, secondary storage, input devices, output devices and anything else that forms part of the computer system). Some resources are shareable (more than one program can use them at the same time) and non-shareable.

Examples of shareable resources are:

- Program code (more than one user on a network can run the same program)
- Parts of RAM that are read-only e.g. database tables.

Examples of non-shareable information are:

- CPU
- Printer
- Keyboard etc

Exercise:

1. What is an operating system?
2. Give two examples of what an operating system does.
3. Write whether the following are true or false

a) The operating system is not a program.	
b) When the computer is switched on the operating system is the first program loaded inside the RAM.	

4. Put the following statements in the correct sequence (the first one is made for you):

The word processor passes the print command to the operating system.	
The printer receives the order to print and it prints the document.	
The user is working with a word processor and gives a command to the word processor to print a document.	1
The operating system communicates with the hardware of the computer so that the printing is done.	

5. Put the following statements in the correct sequence (the first one is made for you):

After half a second the operating system stops X (temporarily) from executing.	
After half a second the operating system stops (temporarily) program Y.	
A program X is executing (using the CPU).	1

The operating system calls program Y to use the CPU.	
The operating system calls program X to continue execution.	

6.

- a. What is a resource?
- b. What is a sharable resource?
- c. Give two examples of sharable resources.