

## SS201 $\mu$ Introduction to the Internal Design of Operating Systems

### Quizz 2: Operating system data structures

This assessment evaluates the following competencies:

- OS101 – Understand and define what is an operating system (+1)
- OS102 – Explain mechanisms used by the operating system to abstract the CPU, the memory and the input/output (+1)
- OS121 – Understand how the user mode interacts with the kernel mode and explain the system call mechanism (+1)

For the first assessed competency (OS101), you have to fill in the following text with a correct word. To get a star for the competency, you must have the correct answer for the three missing words in the following text.

An operating system manages , which are abstractions for the computation resources provided by the CPU. These correspond in some way to instances of  that are just sequences of instructions stored in an executable file stored on the .

For the second assessed competency (OS102), you have to link the three following data structures managed by the operating system to the correct location where they are stored on the computing system. To get the star for the competency, you must have the correct answer for the three data structures.

- |                                  |                       |                                   |
|----------------------------------|-----------------------|-----------------------------------|
| 1. Page table                    | <input type="radio"/> | <input type="radio"/> Main memory |
| 2. Translation Look-Aside Buffer | <input type="radio"/> | <input type="radio"/> Disk        |
|                                  |                       | <input type="radio"/> Register    |
| 3. Suspended process             | <input type="radio"/> | <input type="radio"/> Cache       |

Three affirmations are given for the last assessed competency (OS121). For each of them, you have to decide whether it is true or false. To get a star for the competency, you must have the correct answer for the three affirmations.

OS121	True	False
The code of the system call handler is always executed in user mode.	<input type="checkbox"/>	<input type="checkbox"/>
It is necessary to know the code of the system call handler to be able to use the system call efficiently.	<input type="checkbox"/>	<input type="checkbox"/>
The code of all the system call handlers is stored in a special ROM memory only accessible by the operating system in read only mode.	<input type="checkbox"/>	<input type="checkbox"/>