Operating Systems

Opdracht 1

1.8:

Trap: software-generated interrupt caused by an error or by a specific request from a user program.

An interrupt is a system event that needs tob e handled immediately. Hardware and Software can cause interrupts. Software-generated interrupts are called traps. Software can intentionally (or unintentionally) generate a trap. Traps are generated when either the process crashed or the process requests an operating system service to be performed.

1.10:

- You can't build a secure operating system without a priviledged mode because user applications can override the operating system if there is no priviledged mode.

- For a simple system with only one process, it is not necessary to have a priviledged mode.

2.2:

- Pass parameters in registers

- Pass parameters on stack

- Pass adress of memory block in register, the memory block contains all the parameters.

2.7:

- Message passing model
- Shared-memory model

With the message passing model, a common mailbox is opened. Two processes must first make a connection to each other before they can send and receive messages to each other.

With shared-memory, two processes agree to use shared memory out of the operating systems control. A disadvantage fort his model is that the processes itself have to ensure that they are not writing tot he same memory location simultaniously.

3.2:

First, the kernel saves the current context so that it can restore that context later. The kernel then performs a state restore of the process that needs tob e executed.

3.5:

In total, this code created 5 processes.