

MONITORS



what are monitors



In the context of Operating Systems, a **monitor** is a **synchronization construct** that **allows** **concurrent threads or processes to safely access shared resources**. It **acts as a high-level synchronization primitive** that provides a way for threads or processes to **synchronize their access to shared data structures**, such as queues, buffers, and other shared objects.



According to Operating System Concepts, 10th Edition by Abraham Silberschatz, Peter B. Galvin, and Greg Gagne, "A **monitor is a high-level synchronization construct** that **provides a convenient and effective way to implement synchronization** among concurrent threads or processes. A **monitor consists of a set of procedures, variables, and data structures** that are **protected by mutual exclusion**, meaning that **only one thread or process can execute them at any given time**."

```
monitor monitor-name
{
    shared variable declarations
    procedure body P1 (...) {
        ...
    }
    procedure body Pn (...) {
        ...
    }
    ...
    initialization code
}
```

