What is a mutex?

Mutual exclusion, in computer science, refers to the problem of ensuring that no two processes or threads can be in their critical section (the portion of code that cannot share resources) at the same time. For example, a critical section refers to a period of time when the process accesses a shared resource, such as shared memory. The critical section of the code is when software is accessing the shared memory and does not want another process using it at the same time.

A mutex is the software constructs necessary to give you mutual exclusion.

Here are some examples:

- Locks
- Reentrant mutexes
- Semaphores
- Message passing

An non-computer science example of a mutex is the key for a public restroom only one person can use it at a time. ☺