Operating Systems: Interprocess Communication (IPC) Introduction

1. **How do processes communicate?**	By having their threads communicate for them, as threads share memory.
2. **Process can share ____.**	Common Storage
3. **What is a Race Condition?**	Occurs when two or more processes are reading or writing some shared data and the final result depends on the order of which the processes run. This creates the potential for issues when several processes change something in that storage. In short, it occurs when two or more processes attempt to access a shared memory at the same time.
4. **What is Mutual Exclusion?**	A technique commonly used to avoid race conditions. If one process is currently using a shared resource, other processes are excluded from doing the same.
5. **What is the Critical Region?**	Part of the program where processes access shared resources
6. **What requirements does the Critical Region have to follow in order to avoid race conditions?**	1. Now two processes may simultaneously be in the critical region. 2. No assumptions should be made on the speed of quantity of CPUs used 3. No process running outside the critical region may block other processes 4. No process should have to wait forever to enter its critical region
7. **Why do process need to be able to communicate between each other? Give three reasons.**	1. To pass information which is relevant for a given multiprocess task 2. To prevent trying to access exclusive resources simultaneously 3. To work with an appropriate sequencing of events when there are dependencies
8. **Would Parallelism help reduce Race Conditions? Explain**	No. It further increases the chances of Race Conditions because attempting to debug parallel programs can be challenging given that some situations only take place occasionally.