

Producer-Consumer Problem

Race Condition

Problem

1. Consumer is going to sleep upon seeing an empty buffer, but INT occurs;
2. Producer inserts an item, increasing `count` to 1, then call `wakeup(consumer)`;
3. But the consumer is not asleep, though `count` was 0. So *the wakeup() signal is lost*;
4. Consumer is back from INT remembering `count` is 0, and goes to sleep;
5. Producer sooner or later will fill up the buffer and also goes to sleep;
6. Both will sleep forever, and waiting to be waken up by the other process. Deadlock!