

# 操作系统第二次作业

## 生产者消费者

### 实验报告

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#### 一，实验目的

- 1，用信号量的方式解决生产者消费者的问题。
- 2，学会使用 C 语言中有关线程编程的 Pthread 接口。
- 3，体会操作系统进程避免竞争状态的方法。

#### 二，实验环境

这次试验是在 64 位 ubuntu 17.04 系统下使用 Clion 环境进行编程。  
默认编译器是 gcc version 6.3.0 20170406 (Ubuntu 6.3.0-12ubuntu2)

#### 三，实验步骤

主要步骤为查找相关资料与编写代码。  
为了更好的实验效果，我设置睡眠时间是随机的。

#### 四，实验结果

```
customer unlock
producer lock
I am producer and the goods left 9
producer unlock
customer lock
I am customer and the goods left 8
customer unlock
producer lock
I am producer and the goods left 9
producer unlock
producer lock
I am producer and the goods left 10
It is enough! Producer sleep!
producer unlock
customer lock
I am customer and the goods left 9
It' time to wake up producer
customer unlock
```

```
producer unlock  
customer lock  
I am customer and the goods left 1  
customer unlock  
producer lock  
I am producer and the goods left 2  
producer unlock  
customer lock  
I am customer and the goods left 1  
customer unlock  
producer lock  
I am producer and the goods left 2  
producer unlock  
customer lock  
I am customer and the goods left 1  
customer unlock  
customer lock  
I am customer and the goods left 0  
It is none! Customer sleep!  
customer unlock  
producer lock  
I am producer and the goods left 1  
It' time to wake up customer  
producer unlock
```

注，代码在邮箱的附件中。