#### Operating system experiment report

Name: Luoyu Mei Number: 71117408

Working target: Handle consumer producer problem in Windows and Linux operating system by using and .

Working environment: as basic operating system with virtual machine and running on it. Using GCC version 8.2.0 on Windows and version 7.4.0 on Ubuntu.

1. In order to make the program satisfy , I set three semaphore and a char buffer array to be the critical region.
2. Producer produce into buffer using signal and make buffer turn to ‘A’. Consumer consume buffer by changing it to ‘B’. Either producer or consumer access , I print buffer out to show changes.
3. Create multi-thread which include 5 producer and 5 consumer，the maximum frequency for each thread to access is 10.

begin

Apply for three semaphore: mutex，empty，full

Create multi-thread to be producer and consumer

Access critical region and print out the value int buffer

end

**The code of my program will be bale together with this report.**

Experiment result：

Ubuntu：



Windows：

