#include<stdio.h>

#include<pthread.h>

#define MAX 10

pthread\_mutex\_t the\_mutex;

pthread\_cond\_t conc,conp;

int buffer=0;

void \*producer(void \*ptr){

int i;

for(i=1;i<=MAX;i++){

pthread\_mutex\_lock(&the\_mutex);

while(buffer !=0) pthread\_cond\_wait(&conp,&the\_mutex);

printf("producer produce item %d\n",i);

buffer=i;

pthread\_cond\_signal(&conc);

pthread\_mutex\_unlock(&the\_mutex);

}

pthread\_exit(0);

}

void \*consumer(void \*ptr){

int i;

for(i=1;i<=MAX;i++){

pthread\_mutex\_lock(&the\_mutex);

while(buffer==0)pthread\_cond\_wait(&conc,&the\_mutex);

printf("consumer consume item %d\n",i);

buffer=0;

pthread\_cond\_signal(&conp);

pthread\_mutex\_unlock(&the\_mutex);

}

pthread\_exit(0);

}

int main(int argc,char \*argv[]){

pthread\_t pro,con;

pthread\_mutex\_init(&the\_mutex,0);

pthread\_cond\_init(&conc,0);

pthread\_cond\_init(&conp,0);

pthread\_create(&con,0,consumer,0);

pthread\_create(&pro,0,producer,0);

pthread\_join(pro,0);

pthread\_join(con,0);

pthread\_cond\_destroy(&conc);

pthread\_cond\_destroy(&conp);

pthread\_mutex\_destroy(&the\_mutex);

return 0;

}