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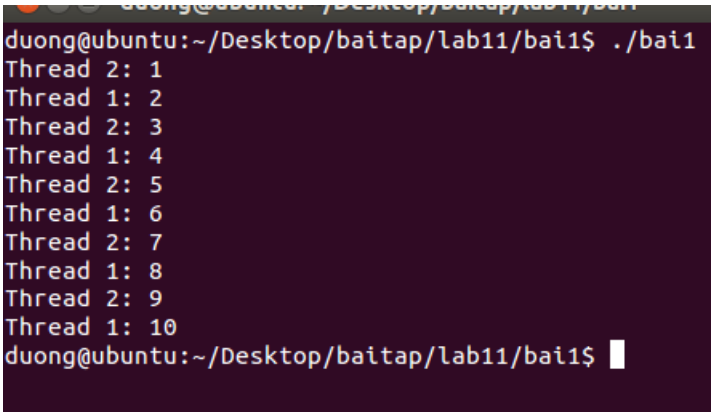
Hoàn thành 3/3

Bài 1/

```c
#include<stdlib.h>
#include<stdio.h>
#include<unistd.h>
#include<pthread.h>
#include<semaphore.h>
sem_t mutex1,mutex2;
void*inchan(void*arg){
    int i;
    for(i=2;i<11;i+=2){
        sem_wait(&mutex1);
        printf("Thread 1: %d\n",i);
        sem_post(&mutex2);
    }
}
void*inle(void*arg){
    int i;
    for(i=1;i<11;i+=2){
        sem_wait(&mutex2);
        printf("Thread 2: %d\n",i);
        sem_post(&mutex1);
    }
}
int main(){
    sem_init(&mutex1,0,0);
    sem_init(&mutex2,0,1);
    pthread_t t1,t2;

    pthread_create(&t1,NULL,inle,NULL);
    pthread_create(&t2,NULL,inchan,NULL);

    pthread_join(t2,NULL);
    pthread_join(t1,NULL);
}
```


duong@ubuntu:~/Desktop/baitap/lab11/bai1$ ./bai1
Thread 2: 1
Thread 1: 2
Thread 2: 3
Thread 1: 4
Thread 2: 5
Thread 1: 6
Thread 2: 7
Thread 1: 8
Thread 2: 9
Thread 1: 10
duong@ubuntu:~/Desktop/baitap/lab11/bai1$

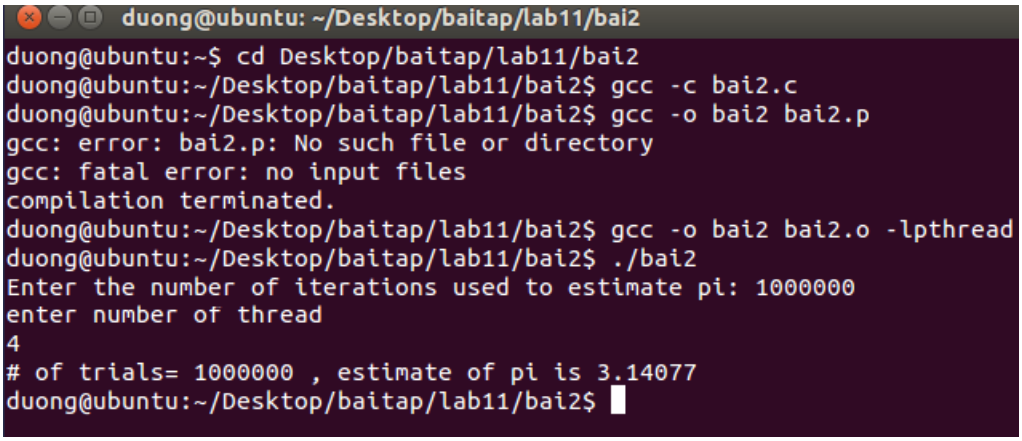
Bài 2/

bai2.c

```c
#include <stdlib.h>
#include <math.h>
#include <string.h>
#include <stdio.h>
#include <pthread.h>
#include <semaphore.h>
#include <unistd.h>
#define SEED 35791246
int count=0;
sem_t sem;
void*monte(void*arg){
        double x,y,z;
        int i;
        srand(SEED);
        int n=(*(int*)arg);
        for ( i=0; i<n; i++) {
        x = (double)rand()/RAND_MAX;
        y = (double)rand()/RAND_MAX;
        z = x*x+y*y;
        if (z<=1){
                sem_wait(&sem);
                count++;
                sem_post(&sem);
        }
    }
}
void main(int argc, char* argv){
    int niter;
    double pi;

    printf("Enter the number of iterations used to estimate pi: ");
    scanf("%d",&niter);
    sem_init(&sem,0,1);
    int thread,i;
    printf("enter number of thread\n");
    scanf("%d",&thread);
    pthread_t t[thread];
    int leng=niter/thread;
    for(i=0;i<thread;i++)
        pthread_create(&t[i],NULL,monte,&leng);
    for(i=0;i<thread;i++)
        pthread_join(t[i],NULL);

pi=(double)count/niter*4;
printf("# of trials= %d , estimate of pi is %g \n",niter,pi);
sem_destroy(&sem);
}
```


duong@ubuntu: ~/Desktop/baitap/lab11/bai2
duong@ubuntu:~$ cd Desktop/baitap/lab11/bai2
duong@ubuntu:~/Desktop/baitap/lab11/bai2$ gcc -c bai2.c
duong@ubuntu:~/Desktop/baitap/lab11/bai2$ gcc -o bai2 bai2.p
gcc: error: bai2.p: No such file or directory
gcc: fatal error: no input files
compilation terminated.
duong@ubuntu:~/Desktop/baitap/lab11/bai2$ gcc -o bai2 bai2.o -lpthread
duong@ubuntu:~/Desktop/baitap/lab11/bai2$ ./bai2
Enter the number of iterations used to estimate pi: 1000000
enter number of thread
4
# of trials= 1000000 , estimate of pi is 3.14077
duong@ubuntu:~/Desktop/baitap/lab11/bai2$

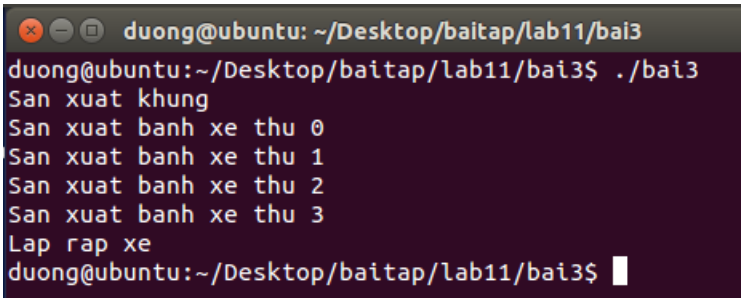
Bài 3/

bai3.c

```c
#include <stdlib.h>
#include <math.h>
#include <string.h>
#include <stdio.h>
#include <pthread.h>
#include <semaphore.h>
#include <unistd.h>
#define SEED 35791246
sem_t sem1,sem2;
void*SXKhung(){
    printf("San xuat khung\n");
    sem_post(&sem1);
}
void*SXBanhXe(){
    int i;
    sem_wait(&sem1);
    for(i=0;i<4;i++)
        printf("San xuat banh xe thu %d\n",i);
    sem_post(&sem2);
}
void*LapRapXe(){
    sem_wait(&sem2);
    printf("Lap rap xe\n");
}
int main(){
    int i;
    sem_init(&sem1,0,0);
    sem_init(&sem2,0,0);
    pthread_t t[3];
    pthread_create(&t[0],NULL,SXKhung,NULL);
    pthread_create(&t[1],NULL,SXBanhXe,NULL);
    pthread_create(&t[2],NULL,LapRapXe,NULL);

    for(i=0;i<3;i++)
        pthread_join(t[i],NULL);

    sem_destroy(&sem1);
    sem_destroy(&sem2);
return 0;
}
```


duong@ubuntu: ~/Desktop/baitap/lab11/bai3
duong@ubuntu:~/Desktop/baitap/lab11/bai3$ ./bai3
San xuat khung
San xuat banh xe thu 0
San xuat banh xe thu 1
San xuat banh xe thu 2
San xuat banh xe thu 3
Lap rap xe
duong@ubuntu:~/Desktop/baitap/lab11/bai3$