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Hoàn thành 2/3

Bài 1/

bai1.c

```c
#include<stdio.h>
#include<unistd.h>
#include<limits.h>
#include<string.h>
#include<stdlib.h>
#include<sys/types.h>
#include<sys/ipc.h>
#include<sys/shm.h>
#include<sys/errno.h>
#define SIZE 256
int main(int argc,char*argv[]){
        int pid,*shm,shmid,k;
        key_t key;
        key=ftok(".",1);
                shmid=shmget(key,SIZE,IPC_CREAT|0666);
        shm=(int*)shmat(shmid,0,0);
        pid=fork();
        if(pid==0){//child
                shm[0]=atoi(argv[1]);
                shm[1]=atoi(argv[2]);
                sleep(3);
                printf("%d +%d =%d\n",shm[0],shm[1],shm[2]);
                shmdt((void*)shm);
                shmctl(shmid,IPC_RMID,(struct shmid_ds*)0);
                return 0;
        }
        else if(pid>0){//parent
                sleep(1);
                shm[2]=shm[0]+shm[1];
                shmdt((void*)shm);
                sleep(5);
                return 0;
        }
        else
                perror("fork failed\n");
                return -1;
return 0;
}
```

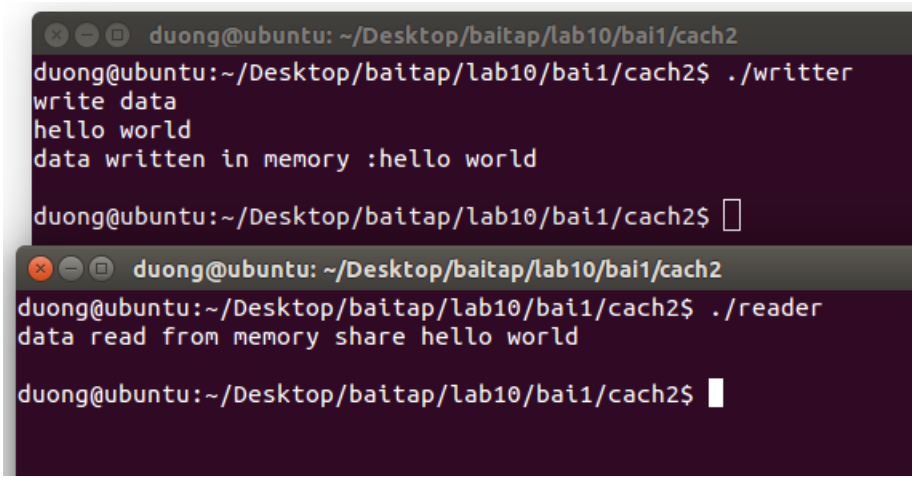
```
duong@ubuntu: ~/Desktop/baitap/lab10/bai1/cach1
duong@ubuntu:~$ cd Desktop/baitap/lab10/bai1/cach1
duong@ubuntu:~/Desktop/baitap/lab10/bai1/cach1$ gcc -c bai1.c
duong@ubuntu:~/Desktop/baitap/lab10/bai1/cach1$ gcc -o bai1 bai1.o
duong@ubuntu:~/Desktop/baitap/lab10/bai1/cach1$ ./bai1 4 6
4 +6 =10
duong@ubuntu:~/Desktop/baitap/lab10/bai1/cach1$
```

reader.c

```c
#include<stdio.h>
#include<sys/ipc.h>
#include<sys/shm.h>
#include<stdio.h>
#define SIZE 1024
int main(){
        key_t key=ftok("shmfile",65);
        int shmid=shmget(key,SIZE,0666|IPC_CREAT);
        char*str=(char*)shmat(shmid,(void*)0,0);
        printf("data read from memory share %s\n",str);
        shmdt(str);
        shmctl(shmid,IPC_RMID,NULL);
return 0;
}
```

reader.c writter.c

```c
#include<stdio.h>
#include<sys/ipc.h>
#include<sys/shm.h>
#include<stdio.h>
#define SIZE 1024
int main(){
        key_t key=ftok("shmfile",65);
        int shmid=shmget(key,SIZE,0666|IPC_CREAT);
        char*str=(char*)shmat(shmid,(void*)0,0);
        printf("write data \n");
        fgets(str,SIZE,stdin);
        printf("data written in memory :%s\n",str);
        shmdt(str);
        return 0;
}
```



Bài 2/

bai2.c

```c
#include<stdio.h>
#include<unistd.h>
#include<stdlib.h>
#include<sys/types.h>
#include<sys/ipc.h>
#include<sys/shm.h>
#define SIZE 256
int main(int argc,char*argv[]){
    key_t key0=ftok(".",0);
    key_t key1=ftok(".",1);
    int *shm0,*shm1,shmid0,shmid1,k,pid;
    shmid0=shmget(key0,SIZE,IPC_CREAT|0666);
    shmid1=shmget(key1,SIZE,IPC_CREAT|0666);
    shm0=(int*)shmat(shmid0,0,0);
    shm1=(int*)shmat(shmid1,0,0);
    pid=fork();

    if(pid==0){//CHILD
        int i,j;
        shm0[0]=argc-1;// SO PHAN TU INPUT
        for(i=1;i<=shm0[0];i++)
            shm0[i]=atoi(argv[i]);
        sleep(3);//cho parent ghi s vao shm1

        printf("so phan tu %d |",shm0[0]);
        for(j=1;j<=shm0[0];j++)
            printf("%d ",shm0[j]);
        printf("tong s= %d\n",shm1[0]);

        shmdt((void*)shm0);
```

```
31          shmctl(shmid0,IPC_RMID,NULL);
32          return 0;
33      }
34      else if(pid>0){//PARENT
35          sleep(2);//cho child ghi phan tu vao shm0
36          int i,s=0;
37          for(i=1;i<=shm0[0];i++)
38              s+=shm0[i];
39          shm1[0]=s;
40          sleep(3);
41          shmdt((void*)shm1);
42          shmctl(shmid1,IPC_RMID,NULL);
43          return 0;
44      }
45      else
46          printf("failed fork\n");
47      return 0;
48  }
```

```
duong@ubuntu: ~/Desktop/baitap/lab10/bai2
duong@ubuntu:~/Desktop/baitap/lab10/bai2$ ./bai2 9 8 7 6 5 4 3 2 1 0
so phan tu 10 |9 8 7 6 5 4 3 2 1 0 tong s= 45
duong@ubuntu:~/Desktop/baitap/lab10/bai2$
```