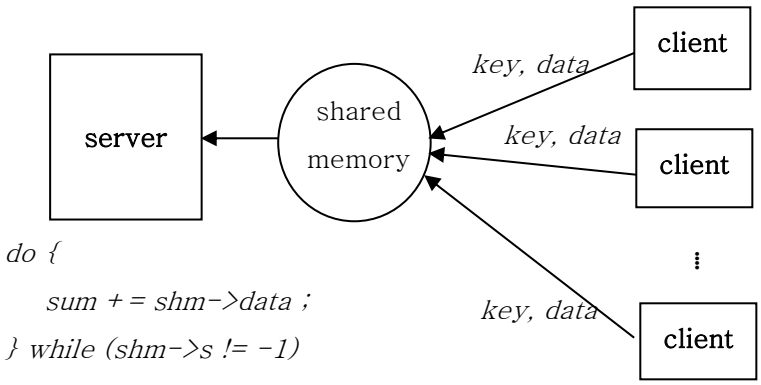
Homework Assignment 2 – due on Thursday, September 28 (Midnight)

Description of Assignment:
You are to write C programs(server.c) which creates and uses a shared memory. The following diagram shows the scheme of this homework.



How to proceed:
Complete the following C program(server.c). The server must create a key which can be used by clients. It also uses a semaphore(shm->s) to synchronize the shared memory. If the semaphore is equals to -1 (shm->s == -1< 0), the server stops.

```
#include <stdio.h>
#include <stdlib.h>
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/shm.h>

typedef struct {
    char s; // semaphore
    int data;
} SHM;

main(int argc, char*argv[])
{
    int shm_id;
    void *shm_addr;
    SHM *shm;
    int key;
    int sum = 0;

    if (argc != 2) {
        printf("usage: %s key₩n", argv[0]);
        exit(1);
    }

    key = atoi(argv[1]);

    shm_id = …;
    shm_addr = …;
    shm = …;

    do {
        …
    } while(shm->s != -1);

    shmdt(…);
    shmctl(…);

    exit(0);
}
```

Turnin the assignment:
After done your assignment, type **turnin** in your current working directory. You can retype the command at any time before the due date.