

## Assignment 7-B

code:

```
#include <stdio.h>
#include <unistd.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <sys/types.h>
#include <wait.h>
#include <stdint.h>
#include <inttypes.h>

int main()
{
    int x, y, ret, ret_v;
    long int add;
    int shmid;
    int *shmptr;
    key_t key;
    pid_t pid;

    printf("\nEnter a number:");
    scanf("%d", &x);

    key = ftok(".", 'M');

    shmid = shmget(key, sizeof(x), IPC_CREAT | 0666);
    if (shmid < 0)
    {
        printf("\nShared memory creation error!");
        _exit(-1);
    }

    printf("\nShared Memory is Created.");
    printf("\nShmid is:%d", shmid);

    shmptr = (int *)shmat(shmid, 0, 0);
    add = (long int)shmptr;
    if (add != -1)
        printf("\nShared Memory is attached at address:%u", shmptr);
    else
    {
        printf("\nShared Memory not attached!");
        _exit(-1);
    }

    *shmptr = x;
```

```

ret = shmdt((void *)shmptr);
if (ret == 0)
    printf("\nShared Memory detached successfully\n");

pid = fork();

if (pid == 0)
{
    printf("\n-----\nThis is Child Process\n-----");
    shmptr = (int *)shmat(shmid, 0, 0);
    add = (long int)shmptr;
    if (add != -1)
        printf("\nShared Memory is attached at address:%u", shmptr);
    else
    {
        printf("\nShared Memory not attached!");
        _exit(-1);
    }
    y = *shmptr;
    printf("\nThe data read is:%d", y);
    ret = shmdt((void *)shmptr);
    if (ret == 0)
        printf("\nShared Memory detached successfully\n");
    ret_v = shmctl(shmid, IPC_RMID, 0);
    if (ret_v == 0)
        printf("\nShared Memory removed successfully!\n\n");
    printf("-----\n");
}
else
{
    wait(0);
}
return 0;
}

```

## Output:

```
ak-linux-computer@fedora-ak:~  
[ak-linux-computer@ak ~]$ gcc 7b.c -o 7b  
[ak-linux-computer@ak ~]$ ./7b  
  
Enter a number:2938  
  
Shared Memory is Created.  
Shmid is:2752549  
Shared Memory is attached at address:2799722496  
Shared Memory detached successfully  
  
-----  
This is Child Process  
-----  
Shared Memory is attached at address:2799722496  
The data read is:2938  
Shared Memory detached successfully  
  
Shared Memory removed successfully!  
  
-----  
[ak-linux-computer@ak ~]$
```