OS LAB EXP 12a:Shared memory

**Program:1- Shared memory implementation using readers writers problem.**

**Writer process:**

**Algorithm:**

 **Step 1** - Create a shared memory using (shmget()) function.

 **Step 2** - attach the current process in to created shared memory be calling shmat() function.

 **Step 3** - Write into shared memory after attaching in to it.

 **Step 4-** After completing write operation detach the process from shared memory area.

**Reader process:**

**Algorithm:**

 **Step 1** - Create a shared memory using (shmget()) function.

 **Step 2** - attach the current process in to created shared memory be calling shmat() function.

 **Step 3** - read the data which is already written by the reader process from shared memory after

attaching in to it.

 **Step 4-** Print the string and detach the process from shared memory area.

**Writer Program:**

#include<stdio.h>

#include<sys/ipc.h>

#include<sys/shm.h>

int main()

{

int shmid;

char \*str;

shmid=shmget((key\_t)9,1024,IPC\_CREAT|0666);

str=(char \*)shmat(shmid,(char \*)0,0);

printf("Write data:");

fgets(str,20,stdin);

printf("Data written in memory : %s \n",str);

shmdt(str);

return 0;

}

**Reader Program :**

#include<stdio.h>

#include<sys/ipc.h>

#include<sys/shm.h>

int main()

{

int shmid;

char \*str;

shmid=shmget((key\_t)6,1024,IPC\_CREAT|0666);

str=(char \*)shmat(shmid,(char \*)0,0);

printf("Data read from memory : %s \n",str);

shmdt(str);

shmctl(shmid,IPC\_RMID,NULL);

return 0;

}

**Output:**

**Writer.c**

Write Data : Operating System Data

Written in memory: Operating System

**Reader.c**

Data read from memory: Operating System