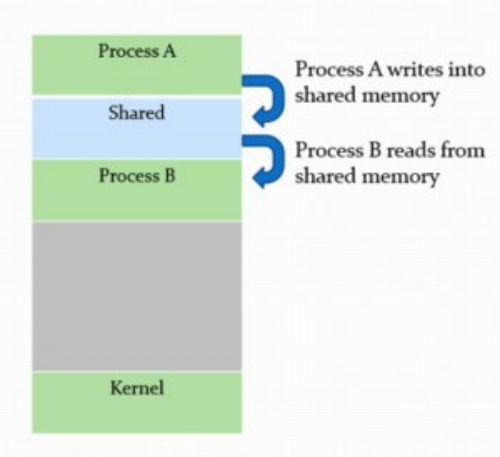
EX NO: 7

Date:

Program illustrating IPC using shared memory.

AIM: To write a program for illustrating Inter Process Communication using shared memory.



ALGORITHM:

1. Start first program.
2. Create shared memory in first process.
3. Read the input from keyboard in first process.
4. Write the data in shared memory in first process.
5. Start second program.
6. Attach shared memory created by first process to second process.
7. Read data in shared memory.
8. Stop the programs

PROGRAMS:

//Program 1: This program creates shared memory segment and writes some data in it.

```
#include<stdio.h>

#include<stdlib.h>

#include<unistd.h>

#include<sys/shm.h>

#include<string.h>

int main()

{

        int i;

        void *shared_memory;

        char buff[100];

        int shmid;

        shmid=shmget((key_t)2345, 1024, 0666|IPC_CREAT);

        /*creates shared memory segment with key 2345, having size 1024 bytes. IPC_CREAT is used to
        create the shared segment if it does not exist. 0666 are the permisions on the shared segment*/

        printf("Key of shared memory is %d\n",shmid);

        shared_memory=shmat(shmid,NULL,0); //process attached to shared memory segment

        printf("Process attached at %p\n",shared_memory); //this prints the address where the
        segment is attached with this process

        printf("Enter some data to write to shared memory\n");

        read(0,buff,100); //get some input from user

        strcpy(shared_memory,buff); //data written to shared memory

        printf("You wrote : %s\n",(char *)shared_memory);

}
```

//Program 2: This program attaches itself to the shared memory segment created in Program 1. Finally, it reads the content of the shared memory

```
#include<stdio.h>

#include<stdlib.h>

#include<unistd.h>

#include<sys/shm.h>

#include<string.h>

int main()

{

int i;

void *shared_memory;

char buff[100];

int shmid;

shmid=shmget((key_t)2345, 1024, 0666);

printf("Key of shared memory is %d\n",shmid);

shared_memory=shmat(shmid,NULL,0); //process attached to shared memory segment

printf("Process attached at %p\n",shared_memory);

printf("Data read from shared memory is : %s\n",(char *)shared_memory);

}
```


OUTPUT:

RESULT:

Thus the program illustrating shared memory was written and executed successfully.