**Assignment no.7b**

Name : Madiha Khan

Roll No.:T21279 Div : 2

Inter-process Communication using Shared Memory using System V. Application to demonstrate:

Client and Server Programs in which server process creates a shared memory segment and writes the message to the shared memory segment. Client process reads the message from the shared memory segment and displays it to the screen.

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| // Roll number= T21279    #include<stdio.h>  #include<unistd.h>  #include<sys/ipc.h>  #include<sys/shm.h>  #include<sys/types.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=(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"); |

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| pid=fork();    if(pid==0)  { printf("\n#############################\nThis is Child Process\n######  #######################");  shmptr=(int\*)shmat(shmid,0,0); add=(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;  }      // E:\assignment\Mayank\OS\7b>gcc 7b.c -o 7b  // E:\assignment\Mayank\OS\7a>7b  // Enter a number:32  // Shared Memory is Created.  // Shmid is:4  // Shared Memory is attached at address:458219520  // Shared Memory detached successfully  // #############################  // -----------------------------------------------  // This is Child Process  // #############################  // -----------------------------------------------  // Shared Memory is attached at address:458219520 |
| // The data read is:32  // Shared Memory detached successfully    // Shared Memory removed successfully!  // -----------------------------------------------      // E:\assignment\Madiha\OS\7b> |