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OS lab

Assignment 7

To write a c program to implement IPC using shared memory.

Writer Code:

#include <stdio.h>

#include <stdlib.h>

#include <sys/ipc.h>

#include <sys/shm.h>

#include <string.h>

#define SHM\_SIZE 1024

int main() {

    key\_t key = 1234;

    int shmid;

    char \*shmaddr;

    shmid = shmget(key, SHM\_SIZE, 0666 | IPC\_CREAT);

    if (shmid == -1) {

        perror("shmget failed");

        exit(1);

    }

    shmaddr = (char \*)shmat(shmid, NULL, 0);

    if (shmaddr == (char \*)-1) {

        perror("shmat failed");

        exit(1);

    }

    printf("Enter a message to write to shared memory: ");

    fgets(shmaddr, SHM\_SIZE, stdin);

    printf("Message written to shared memory: %s\n", shmaddr);

    shmdt(shmaddr);

    return 0;

}

Reader Code:

#include <stdio.h>

#include <stdlib.h>

#include <sys/ipc.h>

#include <sys/shm.h>

#include <string.h>

#define SHM\_SIZE 1024

int main() {

    key\_t key = 1234;

    int shmid;

    char \*shmaddr;

    shmid = shmget(key, SHM\_SIZE, 0666);

    if (shmid == -1) {

        perror("shmget failed");

        exit(1);

    }

    shmaddr = (char \*)shmat(shmid, NULL, 0);

    if (shmaddr == (char \*)-1) {

        perror("shmat failed");

        exit(1);

    }

    printf("Message read from shared memory: %s\n", shmaddr);

    shmdt(shmaddr);

    shmctl(shmid, IPC\_RMID, NULL);

    return 0;

}

Output







