## EXP 9: Illustrate the concept of inter-process communication using shared memory with a C program.

**For Writing,**

```
// Writer Process: writer.c
#include <stdio.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <string.h>

int main() {
   key_t key = ftok("shmfile", 65);  // Generate unique key
   int shmid = shmget(key, 1024, 0666 | IPC_CREAT); // Create shared memory

   char *str = (char*) shmat(shmid, (void*)0, 0); // Attach
   printf("Write data: ");
   fgets(str, 1024, stdin);  // Write input into shared memory

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

   return 0;
}
```

**For Reading,**

```
// Reader Process: reader.c
#include <stdio.h>
#include <sys/ipc.h>
#include <sys/shm.h>

int main() {
   key_t key = ftok("shmfile", 65);  // Same key as writer
```

```
    int shmid = shmget(key, 1024, 0666);  // Locate shared memory

    char *str = (char*) shmat(shmid, (void*)0, 0); // Attach
    printf("Data read from shared memory: %s\n", str);

    shmdt(str);          // Detach
    shmctl(shmid, IPC_RMID, NULL); // Remove shared memory

    return 0;
}
```

## Sample Input (For Writing)

Write data: 2 3 4

## Sample Output

Data written in shared memory: 2 3 4