# PROGRAM NUMBER : 09

**PROGRAM:**

```c
#include <stdio.h>

#include <stdlib.h>

#include <string.h>

#include <sys/ipc.h>

#include <sys/shm.h>

#define SHM_SIZE 1024

int main() {
    key_t key = ftok("shmfile", 65); // Generate a unique key

    // Create or access the shared memory segment
    int shmid = shmget(key, SHM_SIZE, IPC_CREAT | 0666);
    if (shmid == -1) {
        perror("shmget");
        exit(1);
    }

    // Attach the shared memory segment to this process
    char *shmaddr = (char*)shmat(shmid, NULL, 0);
    if (shmaddr == (char*)-1) {
        perror("shmat");
        exit(1);
```

```c
    }

    // Write data to shared memory
    strcpy(shmaddr, "Hello, Shared Memory!");

    // Detach shared memory
    shmdt(shmaddr);
    // Reattach the shared memory segment
    shmaddr = (char*)shmat(shmid, NULL, 0);
    // Read data from shared memory
    printf("Data read from shared memory: %s\n", shmaddr);
    // Detach shared memory again
    shmdt(shmaddr);
    // Remove the shared memory segment
    shmctl(shmid, IPC_RMID, NULL);
    return 0;
}
```

**OUTPUT:**

Output:

```
Data read from shared memory: Hello, Shared Memory!
```