

## EXPERIMENT NO. 7

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**MOODLE ID:** 20102068

**ROLL NO:** 26

**DIV:** A

### PROGRAM:

WRITER:-

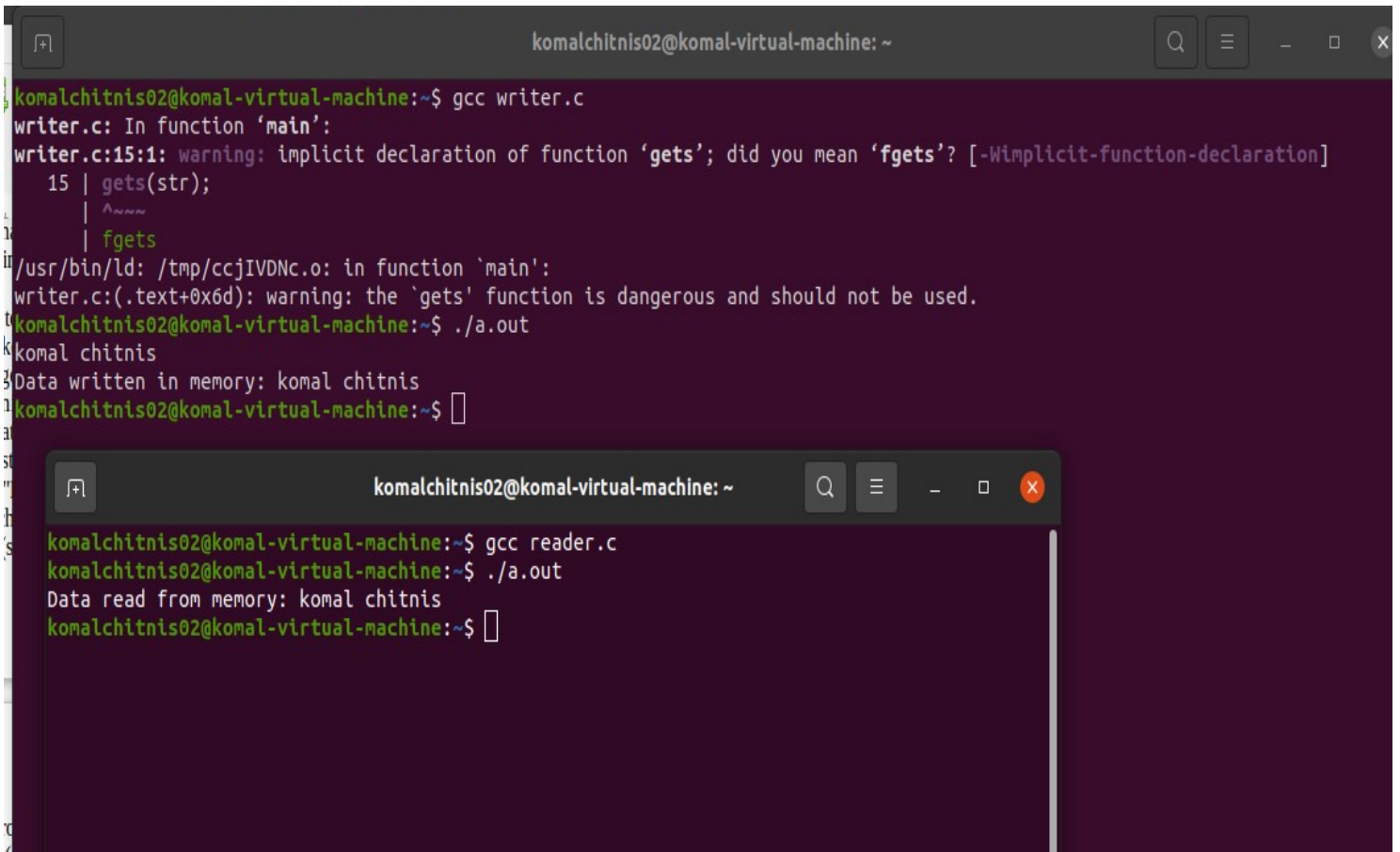
```
#include <iostream>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <stdio.h>
using namespace std;
int main()
{
    // ftok to generate unique key
    key_t key = ftok("shmfile",65);
    // shmget returns an identifier in shmid
    int shmid = shmget(key,1024,0666|IPC_CREAT);
    // shmat to attach to shared memory
    char *str = (char*) shmat(shmid,(void*)0,0);
    cout<<"Write Data : ";
    gets(str);
    printf("Data written in memory: %s\n",str);
    //detach from shared memory
    shmdt(str);
    return 0;
}
```

READER:-

```
#include <iostream>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <stdio.h>
using namespace std;
int main()
{
    // ftok to generate unique key
    key_t key = ftok("shmfile",65);
    // shmget returns an identifier in shmid
    int shmid = shmget(key,1024,0666|IPC_CREAT);
    // shmat to attach to shared memory
    char *str = (char*) shmat(shmid,(void*)0,0);
    printf("Data read from memory: %s\n",str);
    //detach from shared memory
    shmdt(str);
}
```

```
// destroy the shared memory
shmctl(shmid,IPC_RMID,NULL);
return 0;
}
```

## OUTPUT:



The image shows two terminal windows from a virtual machine. The top window shows the compilation of 'writer.c' with warnings about the 'gets' function. The bottom window shows the compilation of 'reader.c' and the execution of both programs, which successfully read and write data to shared memory.

```
komalchitnis02@komal-virtual-machine: ~  
komalchitnis02@komal-virtual-machine:~$ gcc writer.c  
writer.c: In function 'main':  
writer.c:15:1: warning: implicit declaration of function 'gets'; did you mean 'fgets'? [-Wimplicit-function-declaration]  
   15 | gets(str);  
      | ^~~~~~  
      | fgets  
/usr/bin/ld: /tmp/ccjIVDnc.o: in function 'main':  
writer.c:(.text+0x6d): warning: the `gets' function is dangerous and should not be used.  
komalchitnis02@komal-virtual-machine:~$ ./a.out  
komal chitnis  
Data written in memory: komal chitnis  
komalchitnis02@komal-virtual-machine:~$  
  
komalchitnis02@komal-virtual-machine: ~  
komalchitnis02@komal-virtual-machine:~$ gcc reader.c  
komalchitnis02@komal-virtual-machine:~$ ./a.out  
Data read from memory: komal chitnis  
komalchitnis02@komal-virtual-machine:~$
```