

# OPERATING SYSTEM - CS23431

## EXP 7

### IPC USING SHARED MEMORY

NAME: Harini M

ROLL NO: 230701101

PROGRAM:

Sender.c:

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include <unistd.h>
```

```
#include <sys/shm.h>
```

```
#include <string.h>
```

```
int main() { int shmid; shmid = shmget((key_t)2345, 1024, 0666 |
```

```
IPC_CREAT); if (shmid == -1) { perror("shmget failed"); exit(1); }
```

```
printf("Key of the shared memory segment: %d\n", shmid);
```

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

```
if (shmaddr == (char *) -1) {
```

```
    perror("shmat failed");
```

```
    exit(1);
```

```
}
```

```
printf("Process is attached at address %p\n", shmaddr);
```

```
sprintf(shmaddr, "Hello world!!");
```

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

```
if (shmdt(shmaddr) == -1) {  
    perror("shmdt failed");  
    exit(1);  
}
```

```
return 0;
```

```
}
```

Receiver.c:

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include <unistd.h>
```

```
#include <string.h>
```

```
#include <sys/shm.h>
```

```
int main() {
```

```
    int shmid; char *shmaddr;
```

```
    shmid = shmget((key_t)2345, 1024, 0666);
```

```
    if (shmid == -1) {
```

```
        perror("shmget failed");
```

```
        exit(1);
```

```
    }
```

```
    printf("Key of the shared memory segment: %d\n", shmid);
```

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

```
    if (shmaddr == (char *) -1) {
```

```
        perror("shmat failed");
```

```
        exit(1);
```

```
    }
```

```
    printf("Process is attached at address %p\n", shmaddr);
```

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

```
if (shmdt(shmaddr) == -1) {  
    perror("shmdt failed");  
    exit(1);  
}  
  
return 0;  
}  
OUTPUT:
```

```
[student@localhost ~]$ vi sender.c  
[student@localhost ~]$ gcc sender.c  
[student@localhost ~]$ ./a.out  
key of the shared memory is 622605  
Process is attached at 0xb76ee000  
Content written is Hello world!!  
[student@localhost ~]$ vi receiver.c  
[student@localhost ~]$ gcc receiver.c  
[student@localhost ~]$ ./a.out  
key of shared memory segment is 622605  
process is attached at 0xb7782000  
Data read from shared memory is Hello world!!  
[student@localhost ~]$ █
```