EX –7 IPC USING SHARED MEMORY

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Program:

Sender.c

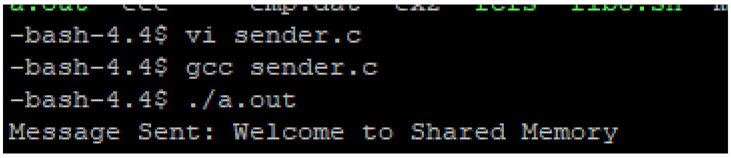
```
#include <stdio.h>
#include <stdlib.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <string.h>
#include <unistd.h>

#define SHM_SIZE 1024

int main() {
   key_t key = ftok("shmfile", 65);
   int shmid = shmget(key, SHM_SIZE, 0666 | IPC_CREAT);

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

   char *str = (char *)shmat(shmid, (void *)0, 0);

   if (str == (char *)-1) {
      perror("shmat failed");
      exit(1);
   }

   sprintf(str, "Welcome to Shared Memory");
   printf("Message Sent: %s\n", str);

   sleep(10);

   shmdt(str);
   return 0;
}
```

Receiver.c

```
#include <stdio.h>
#include <stdlib.h>
#include <sys/ipc.h>
#include <sys/shm.h>
#include <unistd.h>

#define SHM_SIZE 1024  // Define the size of the shared memory

int main() {
   key_t key = ftok("shmfile", 65);
   int shmid = shmget(key, SHM_SIZE, 0666);

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

   char *str = (char *)shmat(shmid, (void *)0, 0);

   if (str == (char *)-1) {
      perror("shmat failed");
      exit(1);
   }

   printf("Message Received: %s\n", str);

   shmdt(str);
   shmctl(shmid, IPC_RMID, NULL);
   return 0;
}
```

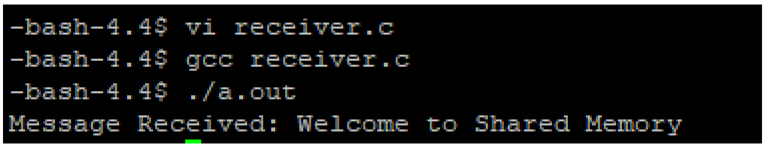
Output:

Sender:



```
-bash-4.4$ vi sender.c
-bash-4.4$ gcc sender.c
-bash-4.4$ ./a.out
Message Sent: Welcome to Shared Memory
```

Receiver:



```
-bash-4.4$ vi receiver.c
-bash-4.4$ gcc receiver.c
-bash-4.4$ ./a.out
Message Received: Welcome to Shared Memory
```