1.Write a program in which a message is passed by program1 to the message queue and program2 prints the same to verify it.

p5.c

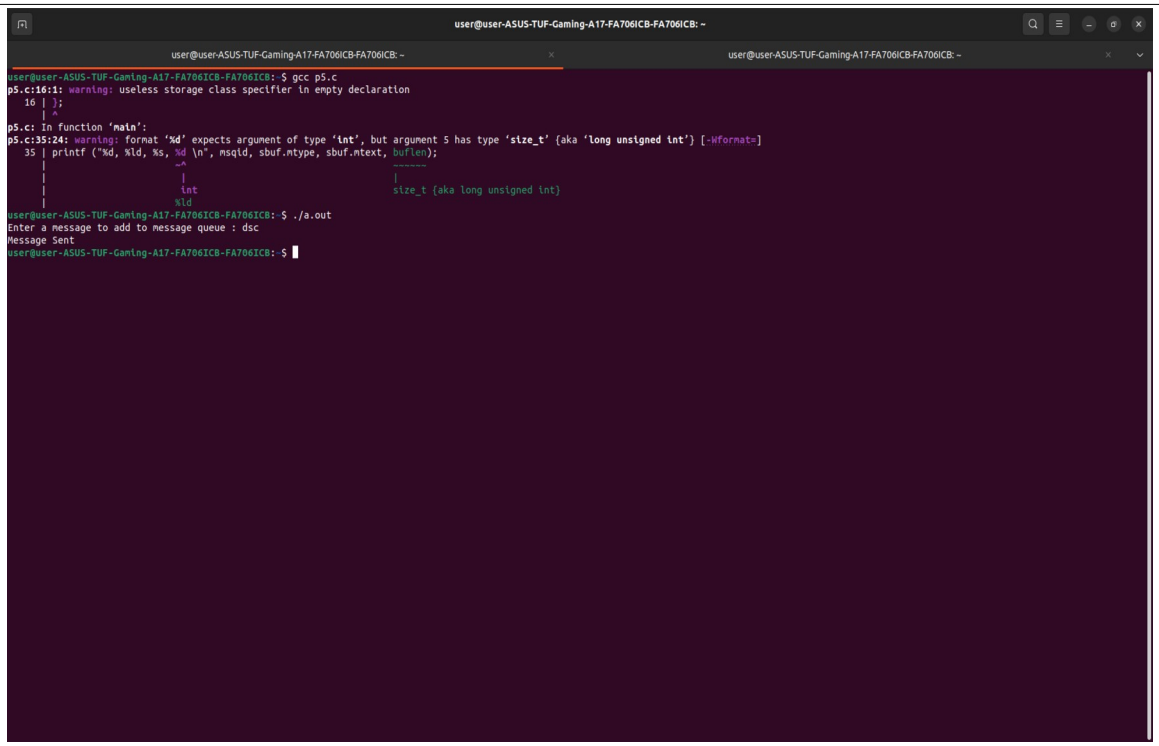
```
#include <sys/ipc.h>
#include <sys/msg.h>
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#define MAXSIZE 128
void die(char *s)
{
perror(s);
exit(1);
}
typedef struct msgbuf
{
long mtype; /* message type, must be > 0 */
char mtext[MAXSIZE];
};
int main()
{
int msqid,i;
int msgflg = IPC_CREAT | 0666;
key_t key;
struct msgbuf sbuf;
size_t buflen;
key = 1503;
if ((msqid = msgget(key, msgflg )) < 0) //Get the message queue ID for the given key
die("msgget");
//Message Type
sbuf.mtype = 1;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
else{
printf("Message Sent\n");
}
exit(0);
}
```

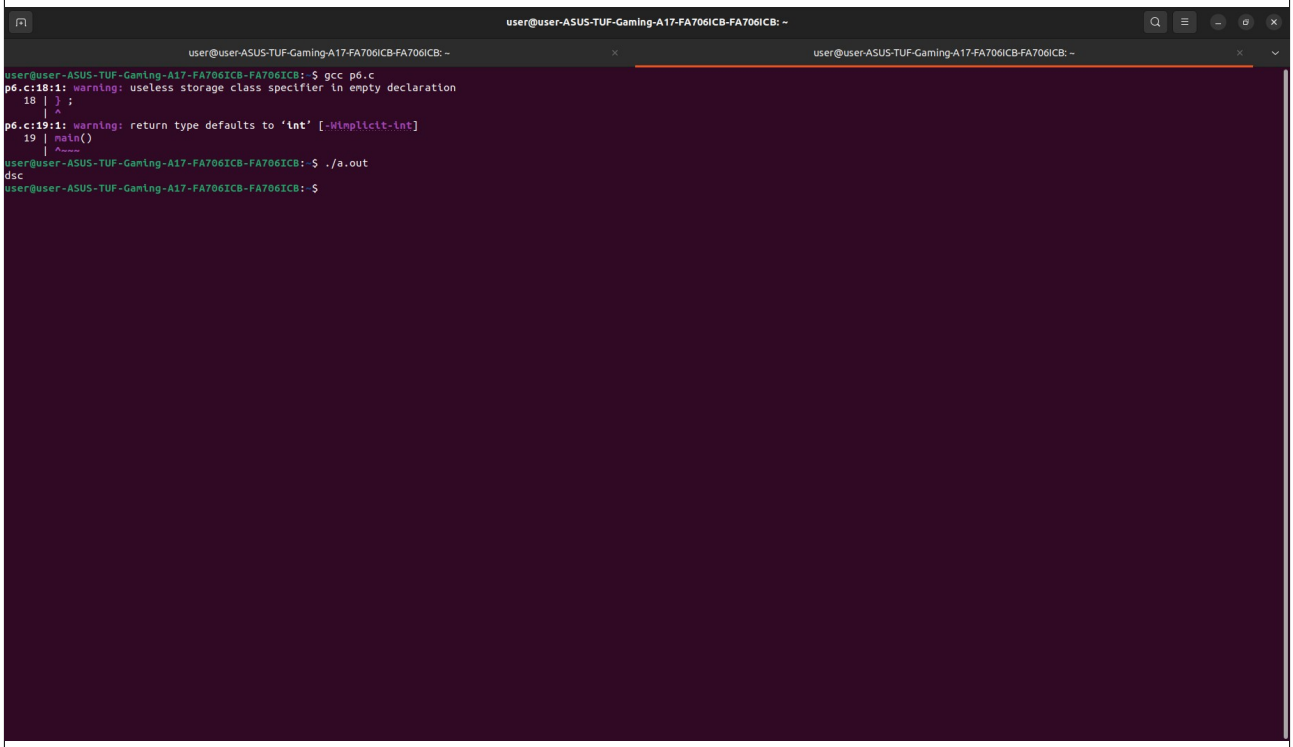
p6.c

```
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/msg.h>
#include <stdio.h>

#include <stdlib.h>
#define MAXSIZE 128
void die(char *s)
{
perror(s);
exit(1);
}
typedef struct msgbuf
{
long mtype;
char mtext[MAXSIZE];
} ;
main()
{
int msqid,j;
key_t key;
struct msgbuf rcvbuffer;
key = 1503;
if ((msqid = msgget(key, 0666)) < 0)
die("msgget()");

if (msgrcv(msqid, &rcvbuffer, MAXSIZE, 1, 0) < 0)
die("msgrcv");
printf("%s\n", rcvbuffer.mtext);
exit(0);
}
```





2.Write a program in which 5 messages are passed by program1 to the message queue and program2 prints all those messages to verify it.

p1.c

```
#include <sys/ipc.h>
#include <sys/msg.h>
#include <stdio.h>
```

```
#include <string.h>
#include <stdlib.h>
#define MAXSIZE 128
void die(char *s)
{
perror(s);
exit(1);
}
typedef struct msgbuf
{
long mtype; /* message type, must be > 0 */
char mtext[MAXSIZE];
};
int main()
{
int msqid,i;
int msgflg = IPC_CREAT | 0666;
key_t key;
struct msgbuf sbuf;
size_t buflen;
key = 1400;
if ((msqid = msgget(key, msgflg )) < 0) //Get the message queue ID for the given key
die("msgget");
//Message Type
sbuf.mtype = 1;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 2;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 3;

printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
```

```
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 4;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 5;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
else{
printf("Message Sent\n");
}
exit(0);
}
```

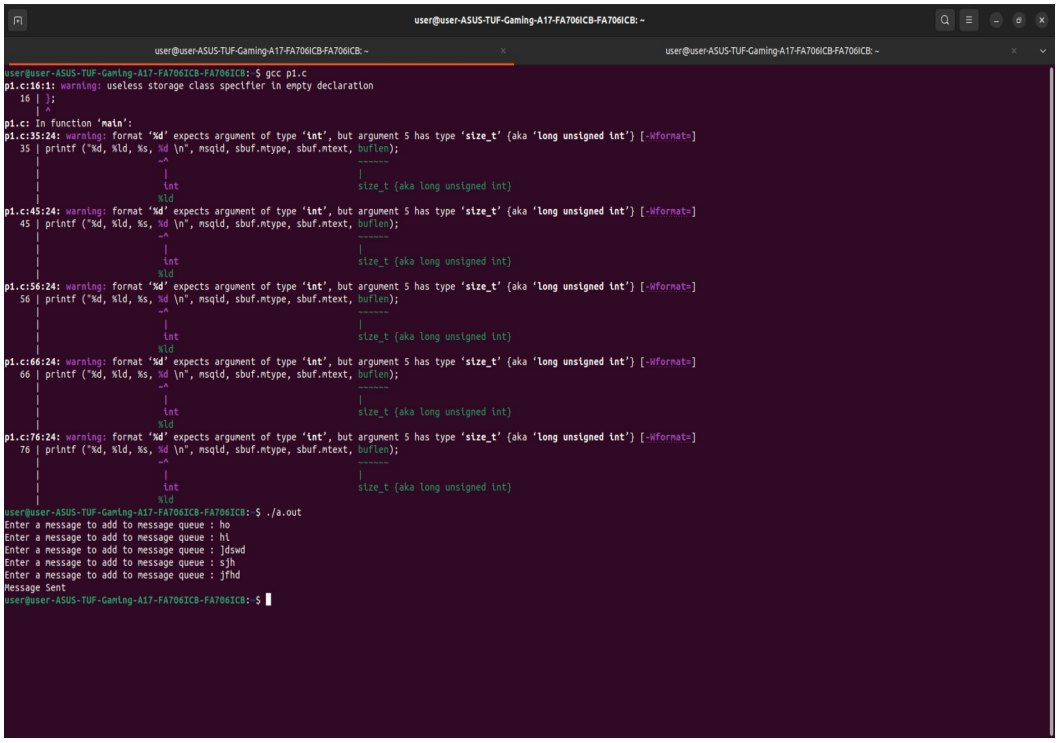
p2.c

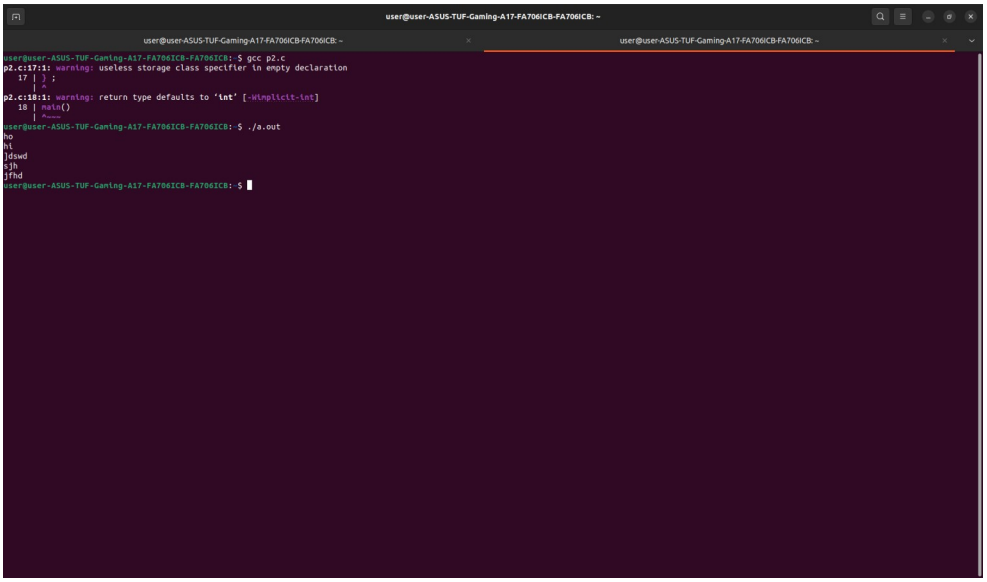
```
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/msg.h>
#include <stdio.h>
#include <stdlib.h>
#define MAXSIZE 128
void die(char *s)
{
perror(s);
exit(1);
}
typedef struct msgbuf
{
long mtype;

char mtext[MAXSIZE];
} ;
main()
{
int msqid,j=1;
key_t key;
```

```
struct msgbuf rcvbuffer;
key = 1400;
if ((msqid = msgget(key, 0666)) < 0)
die("msgget()");
//Receive an answer of message type 1.
if (msgrcv(msqid, &rcvbuffer, MAXSIZE, 1, 0) < 0)
die("msgrcv");
printf("%s\n", rcvbuffer.mtext);
if ((msqid = msgget(key, 0666)) < 0)
die("msgget()");
//Receive an answer of message type 1.
if (msgrcv(msqid, &rcvbuffer, MAXSIZE, 2, 0) < 0)
die("msgrcv");
printf("%s\n", rcvbuffer.mtext);
if ((msqid = msgget(key, 0666)) < 0)
die("msgget()");
//Receive an answer of message type 1.
if (msgrcv(msqid, &rcvbuffer, MAXSIZE, 3, 0) < 0)
die("msgrcv");
printf("%s\n", rcvbuffer.mtext);
if ((msqid = msgget(key, 0666)) < 0)
die("msgget()");
//Receive an answer of message type 1.

if (msgrcv(msqid, &rcvbuffer, MAXSIZE, 4, 0) < 0)
die("msgrcv");
printf("%s\n", rcvbuffer.mtext);
if ((msqid = msgget(key, 0666)) < 0)
die("msgget()");
//Receive an answer of message type 1.
if (msgrcv(msqid, &rcvbuffer, MAXSIZE, 5, 0) < 0)
die("msgrcv");
printf("%s\n", rcvbuffer.mtext);
exit(0);
}
```





3.Write a program in which 5 messages are passed by program1 to the message queue and program2 prints only a specific message to verify it.

p1.c

```
#include <sys/ipc.h>
#include <sys/msg.h>
#include <stdio.h>
#include <string.h>
#include <stdlib.h>
#define MAXSIZE 128
void die(char *s)
```

```
{
perror(s);
exit(1);
}
typedef struct msgbuf
{
long mtype; /* message type, must be > 0 */
char mtext[MAXSIZE];
};
int main()
{
int msqid,i;
int msgflg = IPC_CREAT | 0666;
key_t key;
struct msgbuf sbuf;
size_t buflen;
key = 1502;
if ((msqid = msgget(key, msgflg )) < 0) //Get the message queue ID for the given key
die("msgget");
//Message Type
sbuf.mtype = 1;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 2;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 3;

printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 4;
```

```
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
sbuf.mtype = 5;
printf("Enter a message to add to message queue : ");
scanf("%[^\n]",sbuf.mtext);
getchar();
buflen = strlen(sbuf.mtext) + 1 ;
if (msgsnd(msqid, &sbuf, buflen, IPC_NOWAIT) < 0)
{
printf ("%d, %ld, %s, %d \n", msqid, sbuf.mtype, sbuf.mtext, buflen);
die("msgsnd");
}
else{
printf("Message Sent\n");
}
exit(0);
}
```

p2.c

```
#include <sys/types.h>
#include <sys/ipc.h>
#include <sys/msg.h>
#include <stdio.h>

#include <stdlib.h>
#define MAXSIZE 128
void die(char *s)
{
perror(s);
exit(1);
}
typedef struct msgbuf
{
long mtype;
char mtext[MAXSIZE];
} ;
main()
{
int msqid,j;
key_t key;
struct msgbuf rcvbuffer;
key = 1502;
if ((msqid = msgget(key, 0666)) < 0)
die("msgget()");
```

```
printf("which message do u want to receive");
scanf("%d",&j);
if (msgrcv(msqid, &rcvbuffer, MAXSIZE, j, 0) < 0)
die("msgrcv");
printf("%s\n", rcvbuffer.mtext);
exit(0);
}
```