**Client.C**

#include <stdio.h>

#include <sys/ipc.h>

#include <sys/msg.h>

#include <sys/types.h>

#include <errno.h>

#include <stdlib.h>

#include <unistd.h>

struct msgbuf

{

long mtype;

int n;

};

struct msgsend

{

long mtype;

char a[8];

};

int main()

{

struct msgbuf msg;

int msqid, msqid2;

key\_t key, key2;

if ((key = ftok("client8.c", 'B')) == -1)

{

perror("ftok");

exit(1);

}

if ((msqid = msgget(key, 0644 | IPC\_CREAT)) == -1)

{

perror("connection not made");

exit(1);

}

printf("Enter number: ");

msg.mtype=1;

scanf("%d", &msg.n);

if(msgsnd(msqid, &msg, sizeof(int), 0)==-1)

perror("not sent");

pid\_t x = fork();

wait();

if(x==0)

{

execl("./outputs", "",NULL);

}

else

{

struct msgsend send;

int i;

if ((key2 = ftok("server8.c", 'B')) == -1)

{

perror("ftok");

exit(1);

}

if ((msqid2 = msgget(key2, 0644)) == -1)

{

perror("connection not made");

exit(1);

}

if (msgrcv(msqid2, &send, sizeof(char)\*9, 0, 0) == -1)

{

perror("not received");

exit(1);

}

printf("\nBack to client. Reading..: ");

for(i=7; i>=0; i--)

printf("%c", send.a[i]);

printf("\n\n");

return 0;

}

}

Server.c

#include <stdio.h>

#include <sys/ipc.h>

#include <sys/msg.h>

#include <sys/types.h>

#include <errno.h>

#include <stdlib.h>

struct msgbuf

{

long mtype;

int n;

};

struct msgsend

{

long mtype;

char a[9];

};

int main()

{

struct msgbuf msg;

int msqid, msqid2;

key\_t key, key2;

if ((key = ftok("client8.c", 'B')) == -1)

{

perror("ftok");

exit(1);

}

if ((msqid = msgget(key, 0644)) == -1)

{

perror("connection not made");

exit(1);

}

if (msgrcv(msqid, &msg, sizeof(int), 0, 0) == -1)

{

perror("not received");

exit(1);

}

printf("\nNumber: %d\n", msg.n);

int i, k=0;

struct msgsend send;

send.mtype = 0;

printf("\nBinary: ");

for(i=msg.n; i>0; i=i/2)

{

if(i%2==0)

send.a[k++] = '0';

else

send.a[k++] = '1';

}

for(i; i<8; i++)

send.a[k++] = '0';

send.a[k] = '\0';

for(i=7; i>=0; i--)

printf("%c", send.a[i]);

printf("\nSending...");

if ((key2 = ftok("server8.c", 'B')) == -1)

{

perror("ftok");

exit(1);

}

if ((msqid2 = msgget(key2, 0644 | IPC\_CREAT)) == -1)

{

perror("connection not made");

exit(1);

}

send.mtype=1;

if(msgsnd(msqid2, &send, sizeof(char)\*9, 0)==-1)

perror("not sent");

return 0;

}