2020203002 박상천

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psc@psc-virtual-machine: ~
psc@psc-virtual-machine:-$ ls
                                                                               다운로드
MyMsg.h
            cleanup.c ex.out
                                                      server.c
                                                                   string.out
                                                                               문서
바탕화면
비디오
                                                                   thread.c
array-1.cpp
                                       mutex.c
                                                      signal
             client.c
                                                                   thread.out
array-2.cpp
                           getpwuid
                                        original.txt signal.c
                                                                               시진
사진
음악
템플릿
             con.c
                           getpwuid.c ox
                                                                   vector.cpp
                                                                   vector.out
공개
                                        readdir
chdir
             copy.txt
                           mkdir
                           mkdir.c
                                       readdir.c
                                                      string.cpp
psc@psc-virtual-machine: $ ./server.out
Wait ...
Receive: 1 + 1
Send: 2
Wait ...
Receive: 2 - 1
Send: 1
Wait ...
Receive: 3 * 2
Send: 6
Wait ...
Receive: 5 / 2
Send: 2
Wait ...
^Cpsc@psc-virtual-machine:~$
                                                                        Q =
                                    psc@psc-virtual-machine: ~
psc@psc-virtual-machine: $ ls
                                                                   string.out 다운로드
MyMsg.h
             cleanup.c
                                                      server.c
                                                                               다운도느
문서
바탕화면
비디오
사진
음악
템플릿
             cleanup.out
client.c
                                                                   thread.c
array-1.cpp
                                        mutex.c
                                                      server.out
array-1.out
                                                                   thread.out
                           getpwuid
                                        original.txt signal.c
array-2.cpp
                                                                   tic.c
                           getpwuid.c
                                                      stat.c
                                                                   vector.cpp
             con.c
                                        readdir
             copy.txt
                                                                   vector.out
공개
chdir
                           mkdir
             ex.c
                           mkdir.c
                                        readdir.c
                                                      string.cpp
psc@psc-virtual-machine:-$ ./client.out
Input: [x] [op] [y]
<<< 1 + 1
>>> 2
<<< 2 - 1
>>> 1
<<< 3 * 2
>>> 6
<<< 5 /2
>>> 2
<<< ^C
psc@psc-virtual-machine:-$
```

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Q =
                                           psc@psc-virtual-machine: ~
psc@psc-virtual-machine: $ ls
                                                                            string.out 다운로드
MyMsg.h
               cleanup.c
                                                              server.c
array-1.cpp cleanup.out fstat
                                                              server.out thread.c
                                             mutex.c
                                                                            thread.out 바탕화면
tic.c 비디오
array-1.out client.c
                                             original.txt signal.c
array-2.cpp client.out
                                                                             tic.c
                                                                            vector.cpp 사진
vector.out 음악
공개 템플릿
array-2.out con.c
                              getpwuid.c ox
                                                              stat
stat.c
                                             readdir
                              mkdir
mkdir.c
               copy.txt
                                             readdir.c
                                                             string.cpp 공개
chdir.c
               ex.c
psc@psc-virtual-machine:~$ cat server.c
#include "MyMsg.h"
#include <signal.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <sys/ipc.h>
#include <sys/msg.h>
#include <sys/types.h>
void signalHandler(int signum);
int calculate(Calc calc);
key_t mykey = 0;
int msqid = 0;
int main(int argc, char const *argv[]) {
    MsgCalc msgCalc;
    MsgRslt msgRslt;
     mykey = ftok("mymsgkey", 1);
     msqid = msgget(mykey, IPC_CREAT | 0600);
     signal(SIGINT, signalHandler);
    while (1) { puts("Wait ...");
         memset(&msgRslt, 0x00, sizeof(MsgRslt));
msgRslt.mtype = MSG_TYPE_RSLT;
msgRslt.rslt = calculate(msgCalc.calc);
msgsnd(msqid, &msgRslt, MSG_SIZE_RSLT, 0);
printf("Send: %d\n", msgRslt.rslt);
         fflush(stdout);
     return 0;
```

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Q = |
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int main(int argc, char const *argv[]) {
    MsgCalc msgCalc;
     MsgRslt msgRslt;
     mykey = ftok("mymsgkey", 1);
msqid = msgget(mykey, IPC_CREAT | 0600);
     signal(SIGINT, signalHandler);
    memset(&msgRslt, 0x00, sizeof(MsgRslt));
msgRslt.mtype = MsG_TYPE_RSLT;
msgRslt.rslt = calculate(msgCalc.calc);
msgsnd(msqid, &msgRslt, MSG_SIZE_RSLT, 0);
printf("Send: %d\n", msgRslt.rslt);
          fflush(stdout);
     return 0;
void signalHandler(int signum) {
     if (signum == SIGINT) {
    msgctl(msqid, IPC_RMID, NULL);
          exit(0);
int calculate(Calc calc) {
     switch (calc.op) {
case '+':
          return calc.x + calc.y;
          return calc.x - calc.y;
     case '*':
     return calc.x * calc.y;
case '/':
    return (int)(calc.x / calc.y);
     default:
          return 0:
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Q =
                                                            psc@psc-virtual-machine: ~
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MyMsg.h
                  cleanup.c
                                                               moss.pl
                                                                                      server.c
array-1.cpp cleanup.out fstat
array-1.out client.c fstat.o
                                                                                      server.out thread.c
                                                               mutex.c
                                                                                                          thread.c 문서
thread.out 바탕화면
tic.c 비디오
vector.cpp 사진
vector.out 음악
공개 템플릿
array-2.cpp client.out
array-2.out con.c
                                           getpwuid
                                                               original.txt signal.c
                                                                                      stat
stat.c
                                           getpwuid.c ox
                    copy.txt
chdir
                                           mkdir
                                                                                      string.cpp 공개
                                          mkdir.c
                                                              readdir.c
                    ex.c
psc@psc-virtual-machine:~$ cat client.c
#include "MyMsg.h"
#include <signal.h>
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
#include <string.h>
#include <sys/ipc.h>
#include <sys/msg.h>
#include <sys/types.h>
int main(int argc, char const *argv[]) {
   key_t mykey = ftok("mymsgkey", 1);
   int msqid = msgget(mykey, IPC_CREAT);
      int x = 0;
       int y = 0;
       char op = 0;
      MsgCalc msgCalc;
MsgRslt msgRslt;
       puts("Input: [x] [op] [y]");
      puts("Input: [x] [op] [y]");
while (1) {
    printf("<<< ");
    scanf("%d %c %d", &x, &op, &y);
    fflush(stdout);
    fflush(stdin);
    memset(&msgCalc, 0x00, sizeof(MsgCalc));
    msgCalc.mtype = MSG_TYPE_CALC;
    msgCalc.calc.x = x;
    msgCalc.calc.y = y:</pre>
             msgCalc.calc.y = y;
             msgCalc.calc.op = op;
             msgsnd(msqid, &msgCalc, MSG_SIZE_CALC, 0);
             memset(&msgRslt, 0x00, sizeof(MsgRslt));
msgrcv(msqid, &msgRslt, MSG_SIZE_RSLT, MSG_TYPE_RSLT, 0);
printf(">>> %d\n", msgRslt.rslt);
      return 0;
psc@psc-virtual-machine:-$
```