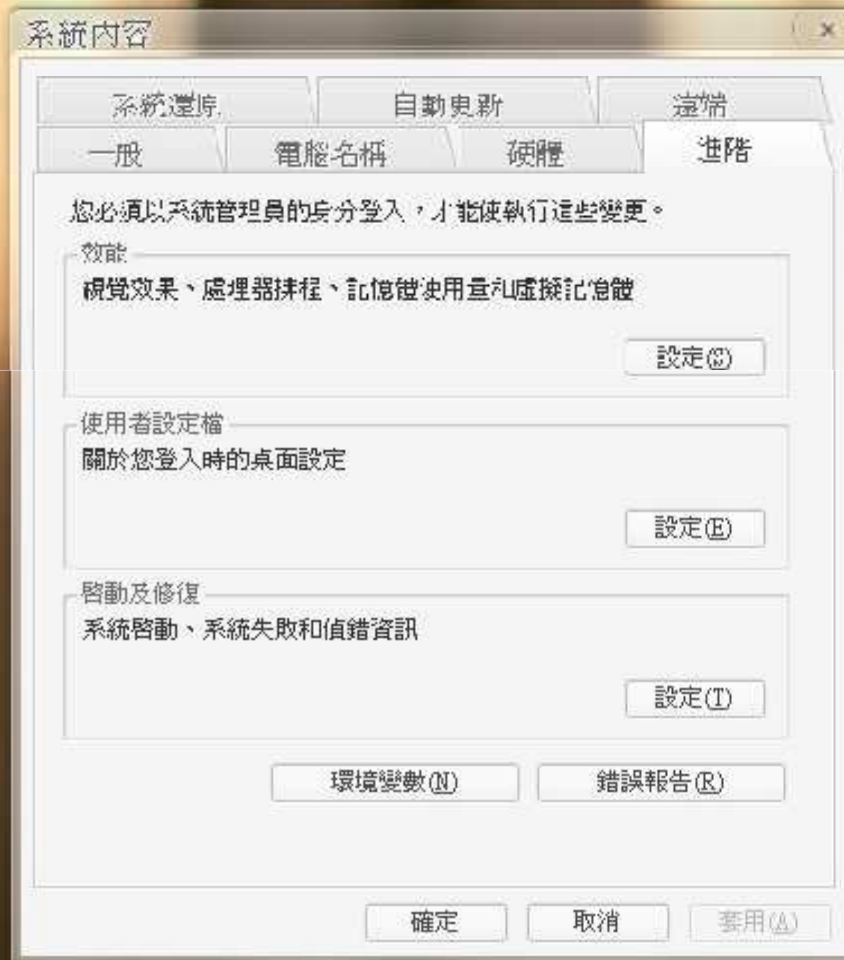




About the Program

s97610044

Run the example program



Run the example program cont.

What are you looking for?

編輯系統變數

變數名稱(N):

Path

變數值(V):

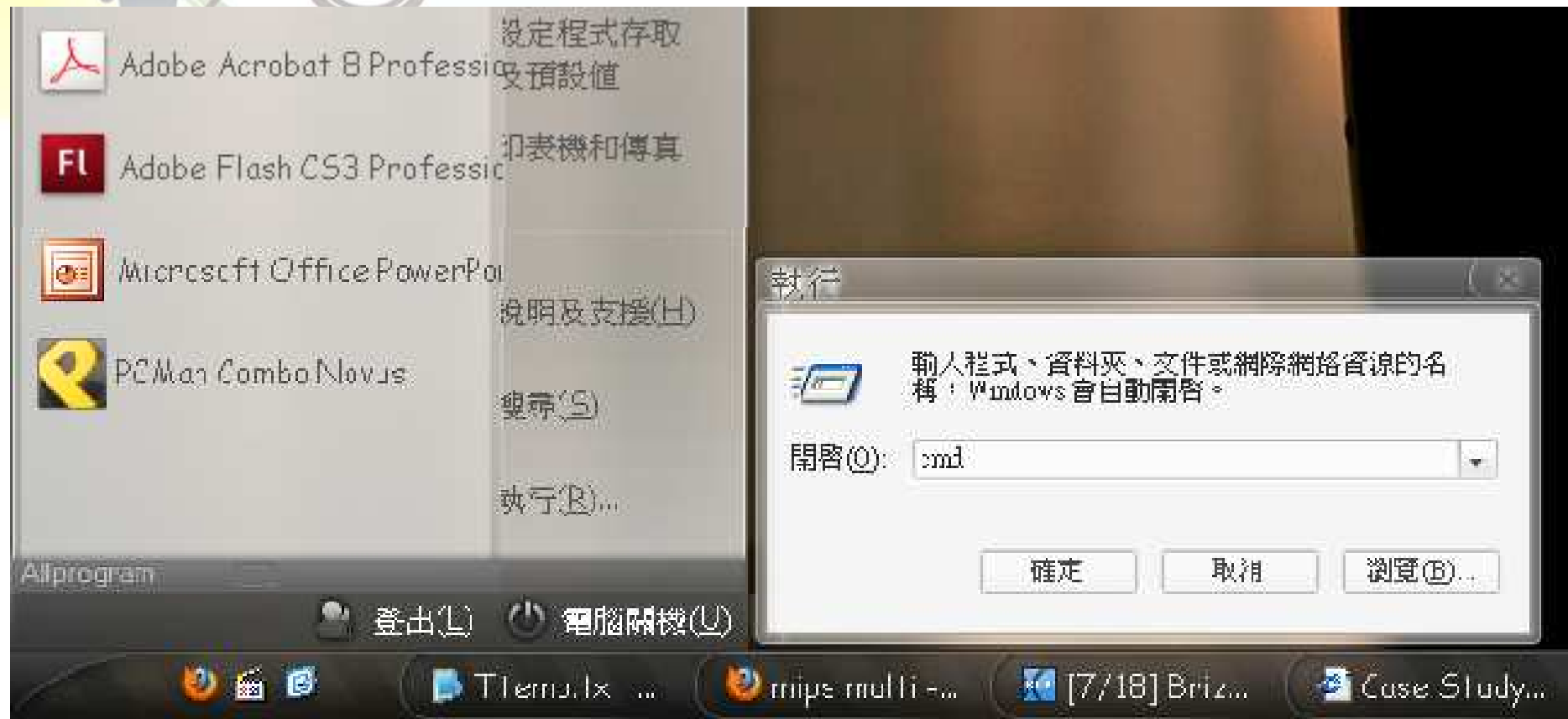
File\QuickTime\QTSystem\Codev-Cpp\bin

確定

取消

Run the example program cont.

What are you looking for?



Run the example program cont.

```
C:\WINDOWS\system32\cmd.exe

C:\Documents and Settings\Balala>cd My*

C:\Documents and Settings\Balala\My Documents>cd hw_temp

C:\Documents and Settings\Balala\My Documents\hw_temp>dir
Volume in drive C is System
Volume Serial Number is 50DF-9DD8

Directory of C:\Documents and Settings\Balala\My Documents\hw_temp

2010/05/20 上午 12:02 <DIR> .
2010/05/20 上午 12:02 <DIR> ..
2010/05/06 下午 06:16          9,210 Chapter4ProgrammingProjects.rar
2004/08/23 下午 02:33          4,140 node0.c
2004/08/23 下午 02:33          3,862 node1.c
2004/08/23 下午 02:33          4,165 node2.c
2004/08/23 下午 02:33          3,874 node3.c
2004/08/23 下午 02:33         10,582 prog4.c
           6 File(s)          35,833 bytes
           2 Dir(s)    5,323,390,976 bytes free

C:\Documents and Settings\Balala\My Documents\hw_temp>gcc *.c -o temp.exe
```

Run the example program cont.

C:\WINDOWS\system32\cmd.exe

```
C:\Documents and Settings\Balala\My Documents\hw_temp>gcc *.c -o temp.exe
node0.c:10: warning: useless keyword or type name in empty declaration
node1.c:10: warning: useless keyword or type name in empty declaration
node2.c:10: warning: useless keyword or type name in empty declaration
node3.c:10: warning: useless keyword or type name in empty declaration
```

```
C:\Documents and Settings\Balala\My Documents\hw_temp>temp.exe
```

```
Enter TRACE:2
```

```
It is likely that random number generation on your machine
is different from what this emulator expects. Please take
a look at the routine jimrand() in the emulator code. Sorry.
```

```
C:\Documents and Settings\Balala\My Documents\hw_temp>
```



Run the example program cont.

- To modify the prog4.c like the picture below

```
148     avg = sum/1000.0;
149     if (0 && avg < 0.25 || avg > 0.75) {
150         printf("It is likely that random number generation on your machine\n" );
151         printf("is different from what this emulator expects. Please take\n");
152         printf("a look at the routine jimrand() in the emulator code. Sorry. \n");
153         exit(0);
154     }
155
```

Run the example program cont.

```
C:\WINDOWS\system32\cmd.exe
Enter TRACE:At time t=0.000, rtinit0() called.
      via
D0 :   1   2   3
----|-----
  1:   1  9999 9999
dest 2: 9999   3 9999
  3: 9999  9999   7
At time t=0.000, node 0 sends packet to node 1 with: 0 1 3 7
At time t=0.000, node 0 sends packet to node 2 with: 0 1 3 7
At time t=0.000, node 0 sends packet to node 3 with: 0 1 3 7

At time t=0.000, rtinit1() called
      via
D1 :   0   2
----|-----
  0:   1  9999
dest 2: 9999   1
  3: 9999  9999
At time t=0.000, node 1 sends packet to node 0 with: 1 0 1 9999
At time t=0.000, node 1 sends packet to node 2 with: 1 0 1 9999

At time t=0.000, rtinit2() called
      via
D2 :   0   1   3
-- More --
```




How to connect?

- To connect with each other can use the function in pre-program

1. `s = connectsock(host, portNum, "tcp");`
2. `accept(msock, (struct sockaddr *)&fsin, &alen);`



How to connect? cont.

- However, we can find that only one connection can connect to the server by using these function
- So, we should use “thread” to solve this situation.



What is Thread?

- We can image that this can execute more program in the same time.



How to use Thread?

- We can use the function which C/C++ has.
- unsigned long
`__beginthread(void (*)(void *), unsigned
__stksize, void *__arg);`



How to use Thread? cont.

- “unsigned long” is an integer which system will give this thread
- “void (*)(void *)” can type in the function name
- “unsigned __stksize” is stack size, and it always set 16536 about 2^{14}
- “void *__arg” is mean Argument which we want to give this function
- E.g.
`_beginthread((*)(void*)func, 16536, “1”);`



How to use Thread? cont.

- Notice that executing the thread function, it will copy the main program's state.
- On the other hand, if you change the variable's value, the same variable's value in another function will be changed, too!



String vs. Number

- How to conveniently change numbers to the string, or change string to numbers?



String vs. Number cont.

- 1. Change number to string.

```
char buffer[100];
```

```
int num=10;
```

```
memset(buffer, '\0', sizeof(buffer));
```

```
sprintf(buffer, "%d", num);
```

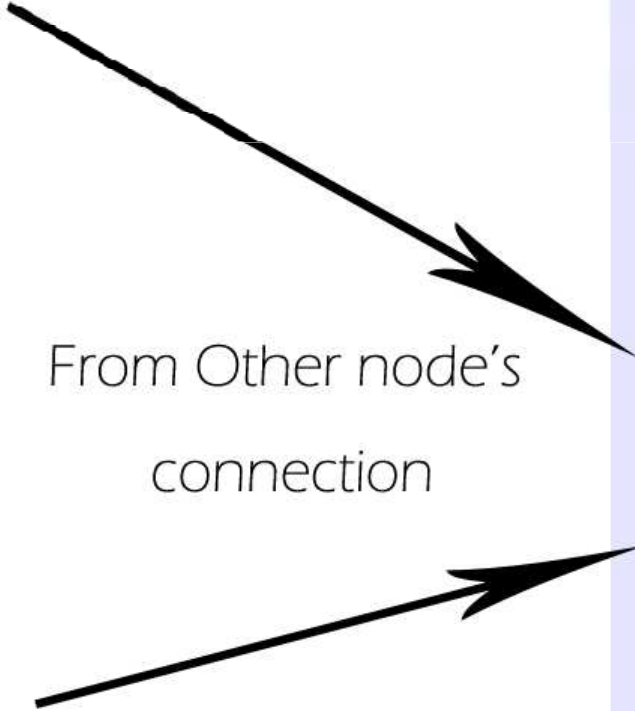
- 2. Change string to number

```
num = atoi(buffer);
```


Execute the program the thread will execute with the program.



- For User
- connect to other node
- compute



Do the function to reply the connecton

