

DS and OOP

LAB 1

Outline

- How to use workstation
- Linux command
- How to read arguments from command line
- Quiz

If you know first three, you can skip them and jump to page 14 to finish today's Quiz

How to use workstation

Putty

Please connect to:

linux1.cs.nctu.edu.tw

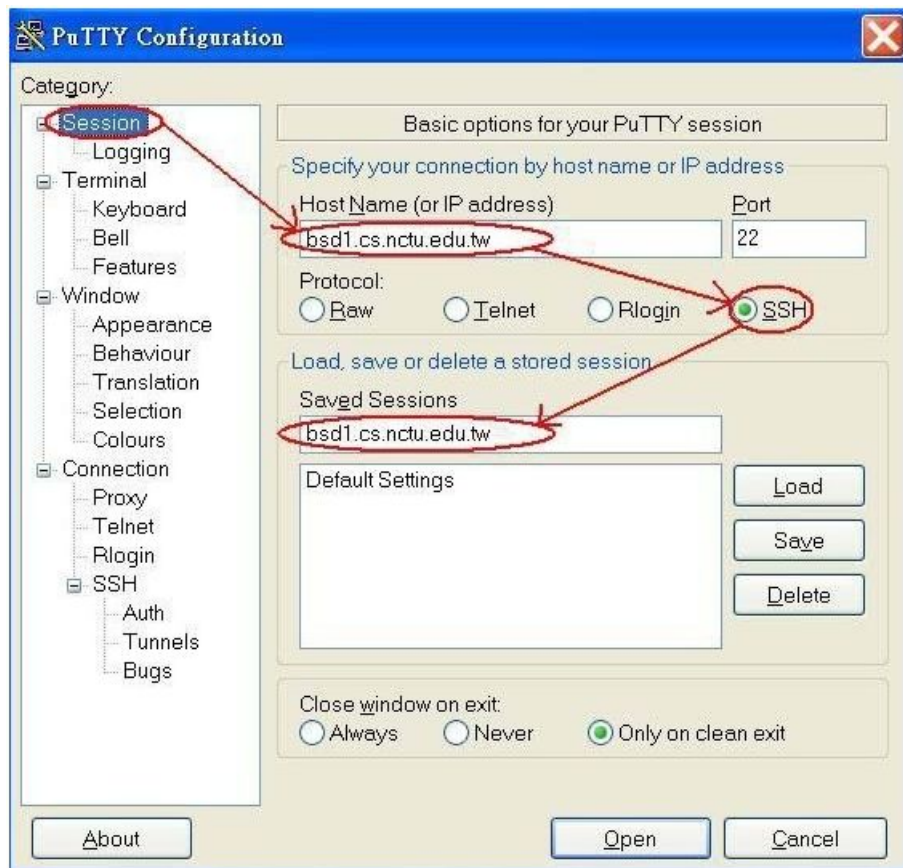
linux2.cs.nctu.edu.tw

linux3.cs.nctu.edu.tw

linux4.cs.nctu.edu.tw

linux5.cs.nctu.edu.tw

linux6.cs.nctu.edu.tw



Download:

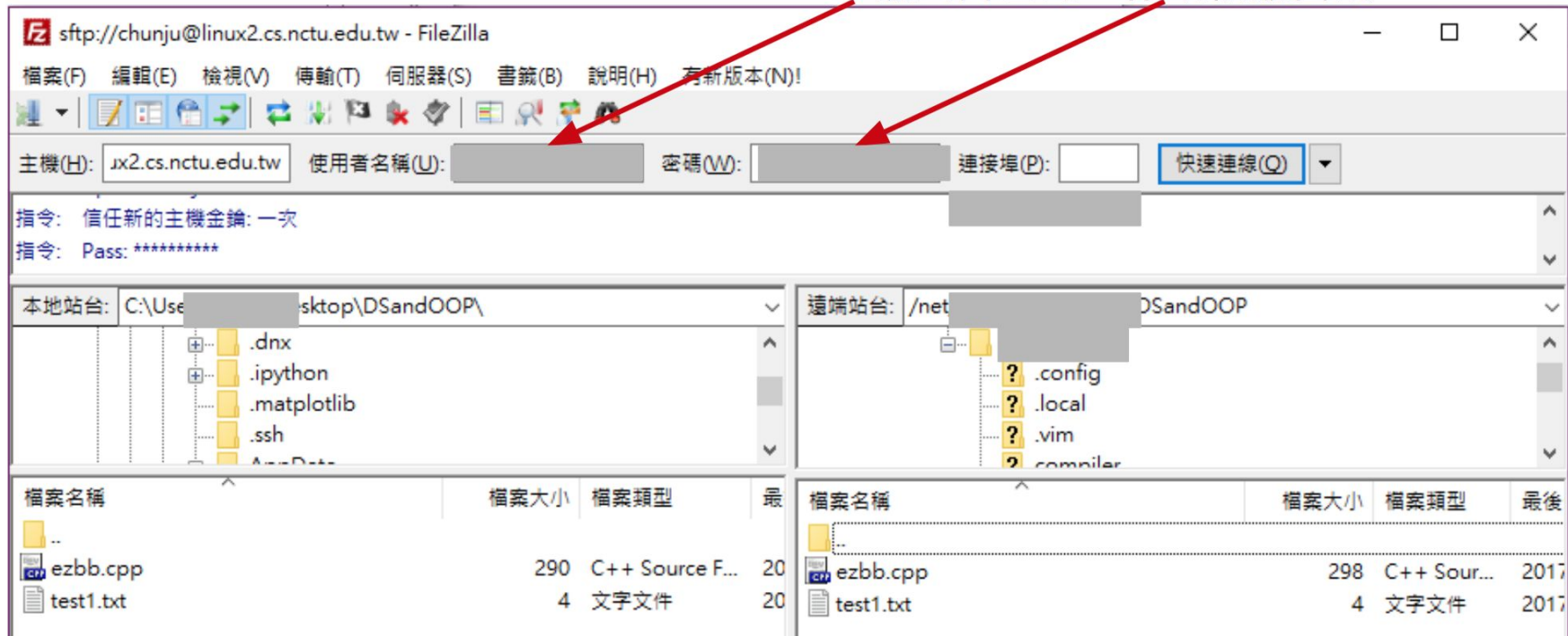
<https://goo.gl/bFz961>

More Settings:

<https://goo.gl/y5zc2d>

Upload to Workstation

輸入自己的工作站帳號密碼



Linux Command

Linux command

Command you may use: cd, ls, g++ [-o outputfilename], ./[outputfilename]

Compile .cpp file and run .out file :

```
16:17 [redacted]@linux2 [~/redacted] >ls
ezbb.cpp  test1.txt
16:18 [redacted]@linux2 [~/redacted] >g++ ezbb.cpp
16:18 [redacted]@linux2 [~/redacted] >ls
a.out*  ezbb.cpp  test1.txt
16:18 [redacted]@linux2 [~/redacted] >./a.out
10
```

TAs will use workstation of NCTU CS to score your code, so you have to be familiar with it

How to read arguments from command
line

How to read arguments from command line

```
1 #include <fstream>
2
3 int main(int argc, char **argv)
4 {
5     fstream fin;
6     fin.open(argv[1] , ios::in);
7 }
```

[C/C++] argc 和 argv 引數的應用

寫程式的時候常常可以看到main函數裡面的argc和argv這兩個變數。

CODE

```
int main(int argc, char **argv)
```

但這兩個變數有什麼應用呢？這兩個是用來傳遞參數到程式裡面。
舉例來說：

CODE

```
./a.out      CCC      aaa      bbb
argv[0]     argv[1]   argv[2]   argv[3], argc=4
```

Run on linux

```
18:01 [redacted]@linux3 [redacted] >g++ test.cpp -o test.out  
18:01 [redacted]@linux3 [redacted] >./test.out 100  
100
```

command line argument

Codeblocks -- method 1

The screenshot illustrates the process of setting program arguments in CodeBlocks. The 'Project' menu is open, and 'Set programs' arguments...' is selected. The 'main.cpp' file is open in the editor, showing the following code:

```
1 #include <iostream>
2
3 using namespace std;
4
5 int main(int argc, char **argv)
6 {
```

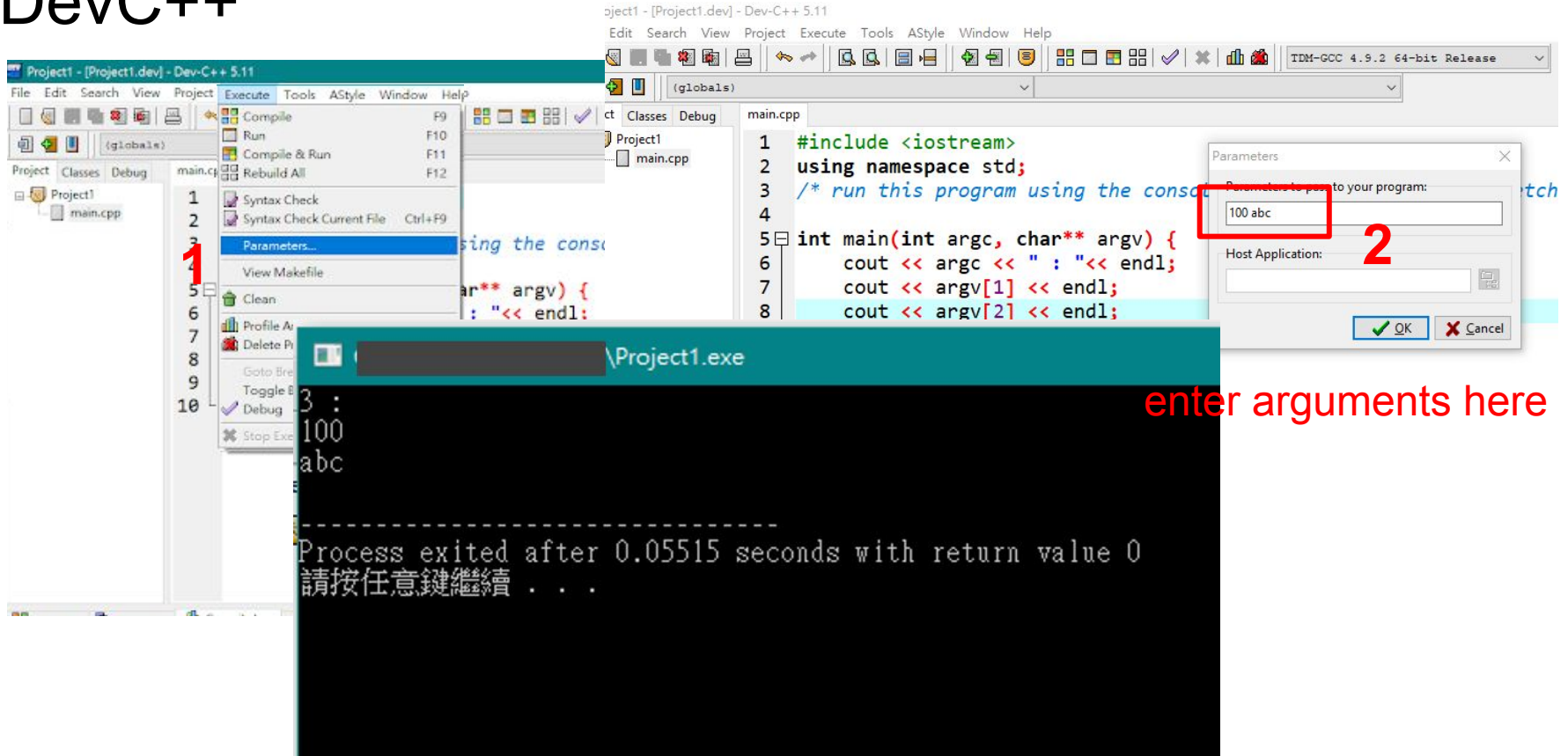
The 'Select target' dialog box is open, showing the 'Debug' target selected. The 'Program arguments' field is highlighted with a red box and a red number '2'. The field contains the text 'abcdef aaaaaa'. The 'Host application' field is empty, and the 'Run host in terminal' checkbox is unchecked. The 'OK' and 'Cancel' buttons are at the bottom.

The terminal window shows the output of the program:

```
3 :
abcdef
aaaaaa
Process returned 0 (0x0) execution time : 0.050 s
Press any key to continue.
```

enter arguments here

DevC++



Quiz

Problem

Given some positive integers,

if the sum of all the digits is multiples of 5, print “computer”

if the product of all the digits is multiples of 9, print “science”

if the above situation both match, print “computer science”

if none is match, print “bug”

Format

Input

Read some integers(arguments) from **command line**, and the number of integer is unknown

Output

Standard output

(each answer is separated by a newline “\n”)

Example

input data

```
17:50 @linux3 [ ] > ./answer.out 456 331 96 283
```

```
computer  
science  
computer science  
bug
```

output

Hint

Convert char* to int

atoi

<cstdlib>

```
int atoi (const char * str);
```

Convert string to integer

Parses the C-string *str* interpreting its content as an integral number, which is returned as a value of type `int`.

```
#include <iostream>
#include <cstdlib>      // <stdlib.h> in c
using namespace std;

int main(int argc, char **argv)
{
    int num = atoi(argv[1]);
}
```

This is just a hint!
You can use your own way!