

Use ROOT in Linux

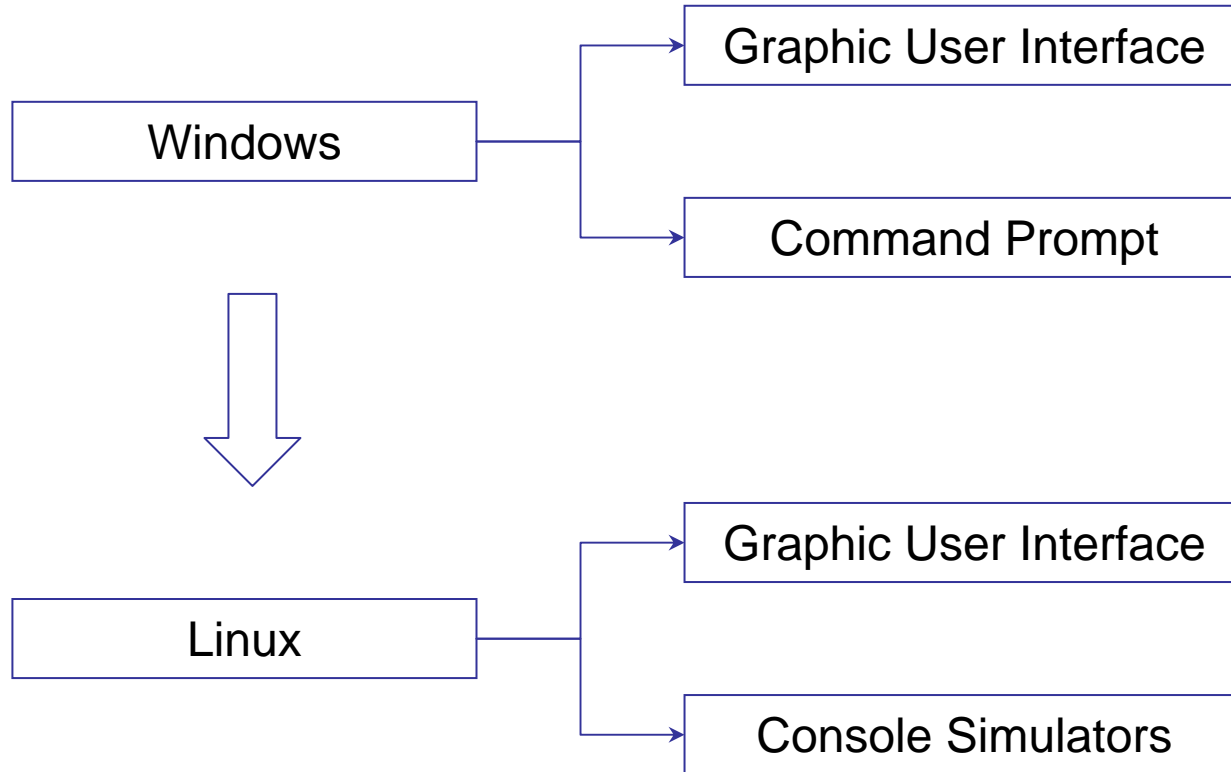
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Jing Liu

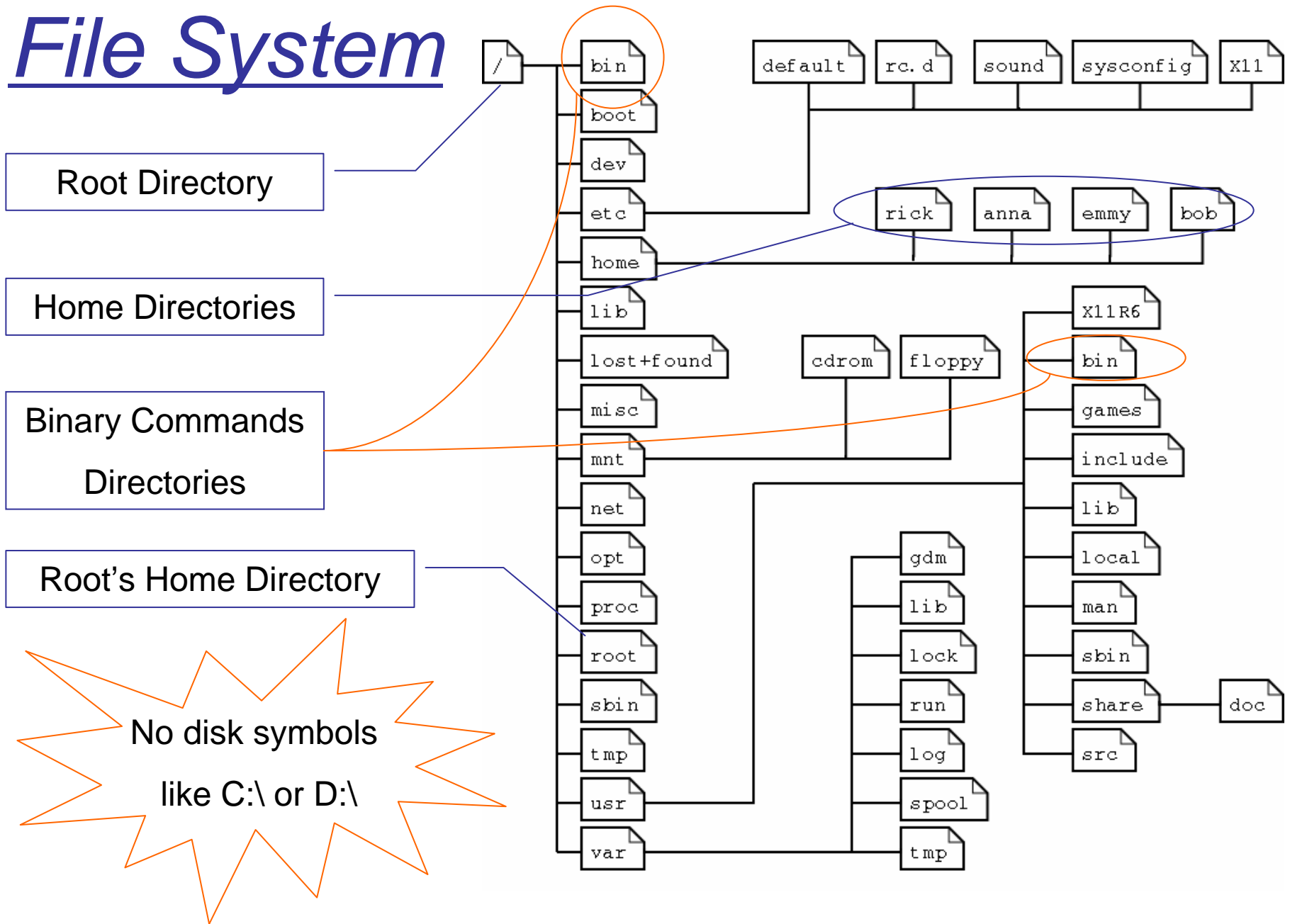
24.10.2006

Linux Basic

What's Linux

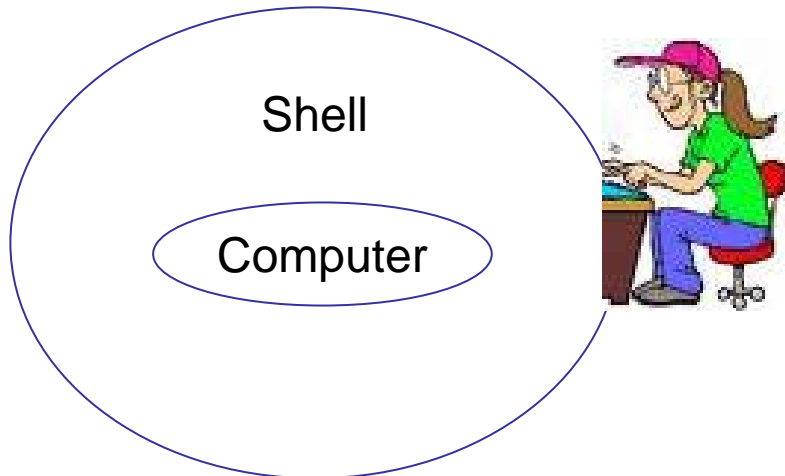
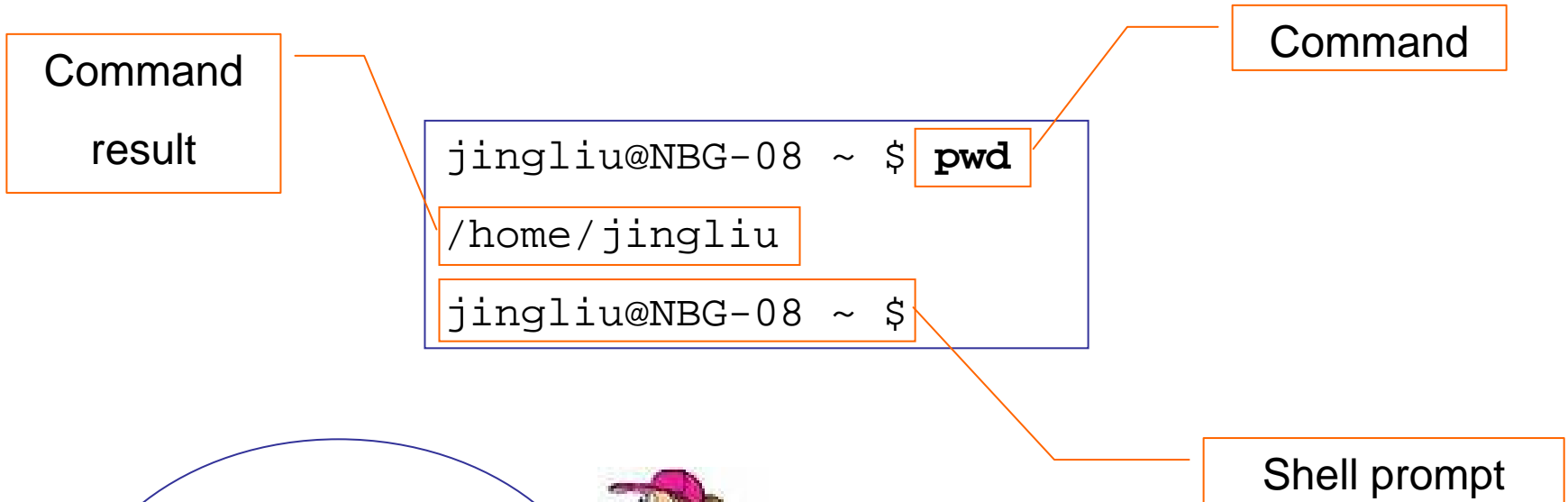


File System



pwd – Where are we

- means “Print Working Directory”



ls – What’s inside

- Means “list the files and subdirectories”

```
jingliu@NBG-08 ~ $ ls
Desktop  test.C
jingliu@NBG-08 ~ $
```

```
jingliu@NBG-08 ~ $ ls -a
.      ..      .bash_history
Desktop  test.C
jingliu@NBG-08 ~ $
```

```
jingliu@NBG-08 ~ $ ls -l
total 18
drwx-----   3 jingliu  GERDA      6144 Jul 27 11:37 Desktop
-rw-r--r--   1 jingliu  GERDA         96 Oct 20 16:31 test.C
jingliu@NBG-08 ~ $
```

cd – where to go

- means “Change Directory”

```
jingliu@NBG-08 ~ $ cd Desktop
jingliu@NBG-08 ~/Desktop $ pwd
/home/jingliu/Desktop
jingliu@NBG-08 ~/Desktop $
```

```
jingliu@NBG-08 ~/Desktop $ cd
jingliu@NBG-08 ~ $
jingliu@NBG-08 ~ $ pwd
/home/jingliu
jingliu@NBG-08 ~ $
```

```
jingliu@NBG-08 ~ $ cd -
jingliu@NBG-08 ~/Desktop $ pwd
/home/jingliu/Desktop
jingliu@NBG-08 ~/Desktop $
```

mkdir and rmdir

- mean “make directory” and “remove directory”

```
jingliu@NBG-08 ~ $ mkdir abc
```

```
jingliu@NBG-08 ~ $ ls
```

```
Desktop abc test.C
```

```
jingliu@NBG-08 ~ $
```

```
jingliu@NBG-08 ~ $ rmdir abc
```

```
jingliu@NBG-08 ~ $ ls
```

```
Desktop test.C
```

```
jingliu@NBG-08 ~ $
```


cp, mv and rm

- cp – copy
- mv – move
- rm – remove

```
jingliu@NBG-08 ~ $ cp test.C abc.C
jingliu@NBG-08 ~ $ ls
Desktop  abc.C  test.C
jingliu@NBG-08 ~ $
```

```
jingliu@NBG-08 ~ $ mv abc.C xyz.C
jingliu@NBG-08 ~ $ ls
Desktop  test.C  xyz.C
jingliu@NBG-08 ~ $
```

```
jingliu@NBG-08 ~ $ rm xyz.C
jingliu@NBG-08 ~ $ ls
Desktop  test.C
jingliu@NBG-08 ~ $
```

man – help!

- means “show manual of certain command”

```
jingliu@NBG-08 ~ $ man ls
```

```
LS(1) User Commands LS(1)
```

```
NAME
```

```
ls - list directory contents
```

```
SYNOPSIS
```

```
ls [OPTION]... [FILE]...
```

```
DESCRIPTION
```

```
List information about the FILES (the current directory by default).
```

```
Sort entries alphabetically if none of -cftuSUX nor --sort.
```

ROOT Basic

ROOT setup in CIP

Set up environment for ROOT

```
jingliu@NBG-08 ~ $ source /etc/profile.local  
jingliu@NBG-08 ~ $ ini ROOT  
jingliu@NBG-08 ~ $ root  
Root [0] .q  
jingliu@NBG-08 ~ $
```

Begin to run ROOT

quit ROOT

ROOT command prompt

1+2=3

```
jingliu@NBG-08 ~ $ root
```

```
Root [0] a=1
```

```
Warning: Automatic variable a is allocated (tmpfile):1:  
(const int)1
```

```
Root [1] b=2
```

```
Warning: Automatic variable b is allocated (tmpfile):1:  
(const int)2
```

```
Root [2] a+b
```

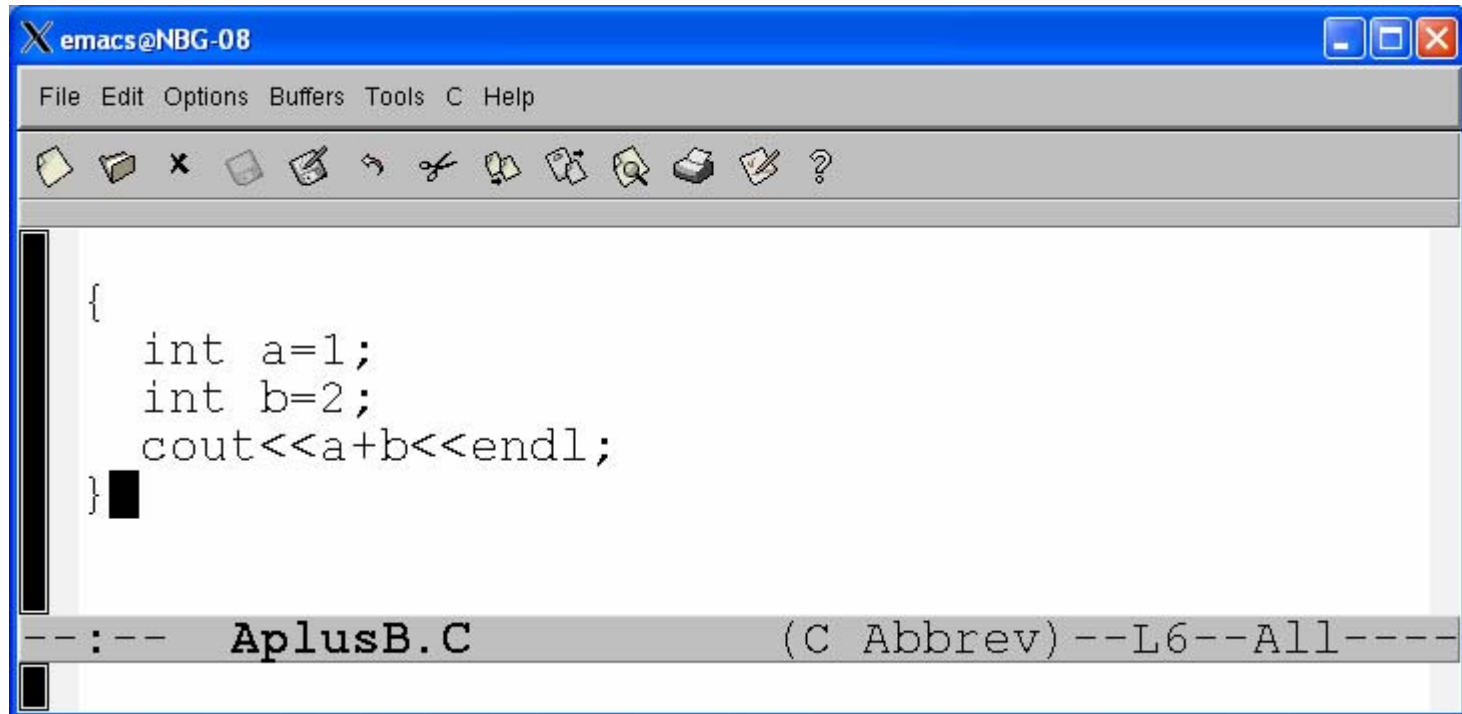
```
(int)3
```

```
Root [3] .q
```

```
jingliu@NBG-08 ~ $
```

ROOT macro

```
jingliu@NBG-08 ~ $ emacs AplusB.C
```



The screenshot shows the Emacs editor window titled "emacs@NBG-08". The menu bar includes "File", "Edit", "Options", "Buffers", "Tools", "C", and "Help". The toolbar contains icons for file operations and editing. The main text area displays the following C++ code:

```
{  
    int a=1;  
    int b=2;  
    cout<<a+b<<endl;  
}
```

The status bar at the bottom shows "--:-- AplusB.C (C Abbrev) --L6--All----

Run macro in ROOT

```
jingliu@NBG-08 ~ $ root
```

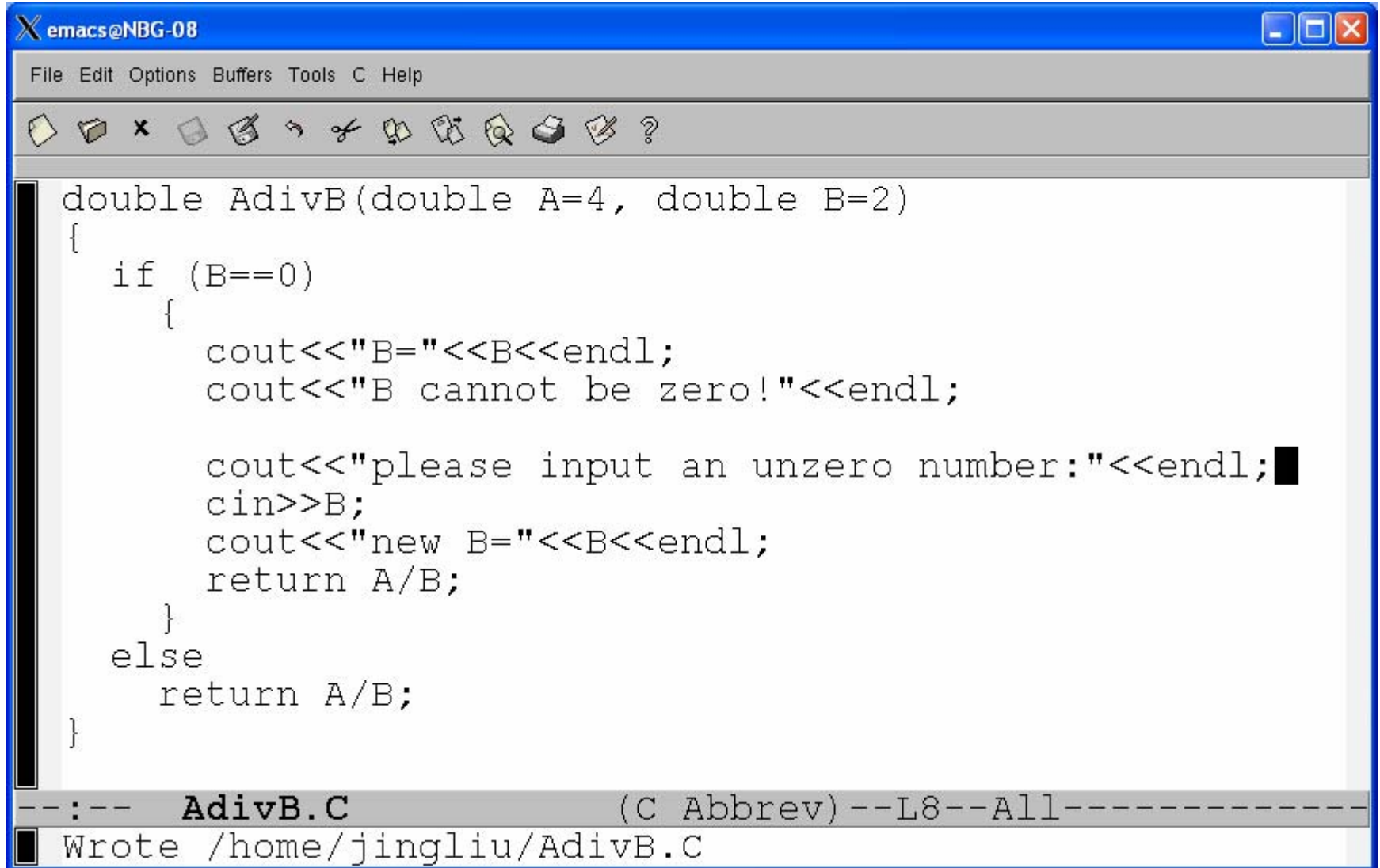
```
Root [0] .x AplusB.C
```

```
3
```

```
Root [3] .q
```

```
jingliu@NBG-08 ~ $
```

Function in Macro



```
double AdivB(double A=4, double B=2)
{
    if (B==0)
    {
        cout<<"B="<<B<<endl;
        cout<<"B cannot be zero!"<<endl;

        cout<<"please input an unzero number:"<<endl;
        cin>>B;
        cout<<"new B="<<B<<endl;
        return A/B;
    }
    else
        return A/B;
}
```

--:-- **AdivB.C** (C Abbrev) --L8--All-----
Wrote /home/jingliu/AdivB.C

Homework

- Use “man” to check the usage of the basic commands
- Setup ROOT environment, run ROOT and then quit from it
- Write a macro to calculate a-b and execute it in ROOT
- Read more about C not C++