CprE 288 – Quick intro for compiling C in Linux

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Overview

- Finding a Linux environment
- Compile C code in Linux
- Linux Basics

Finding a Linux environment

Options for finding a Linux environment to use:

- A Coover computer lab with Linux machines (e.g. the TLA)
- Windows Remote Desktop: use it to login to most ISU Linux machines using your userID & password
  - Available Remote Linux machines: https://it.ece.iastate.edu/remote/
  - Note: If you are not on the campus network, then to remotely access machines using Remote Desktop you must use a VPN: https://www.it.iastate.edu/services/vpn
- Most Apple MACs have some type of Linux/Unix environment. If you can get it to work, than feel free to make use of it.
- Windows 10: Has its **Windows Subsystem for Linux (WSL).**
  - If you would like to try to get this to work, then just search for "WSL Running Linux in Windows 10". There should be a number of useful links.

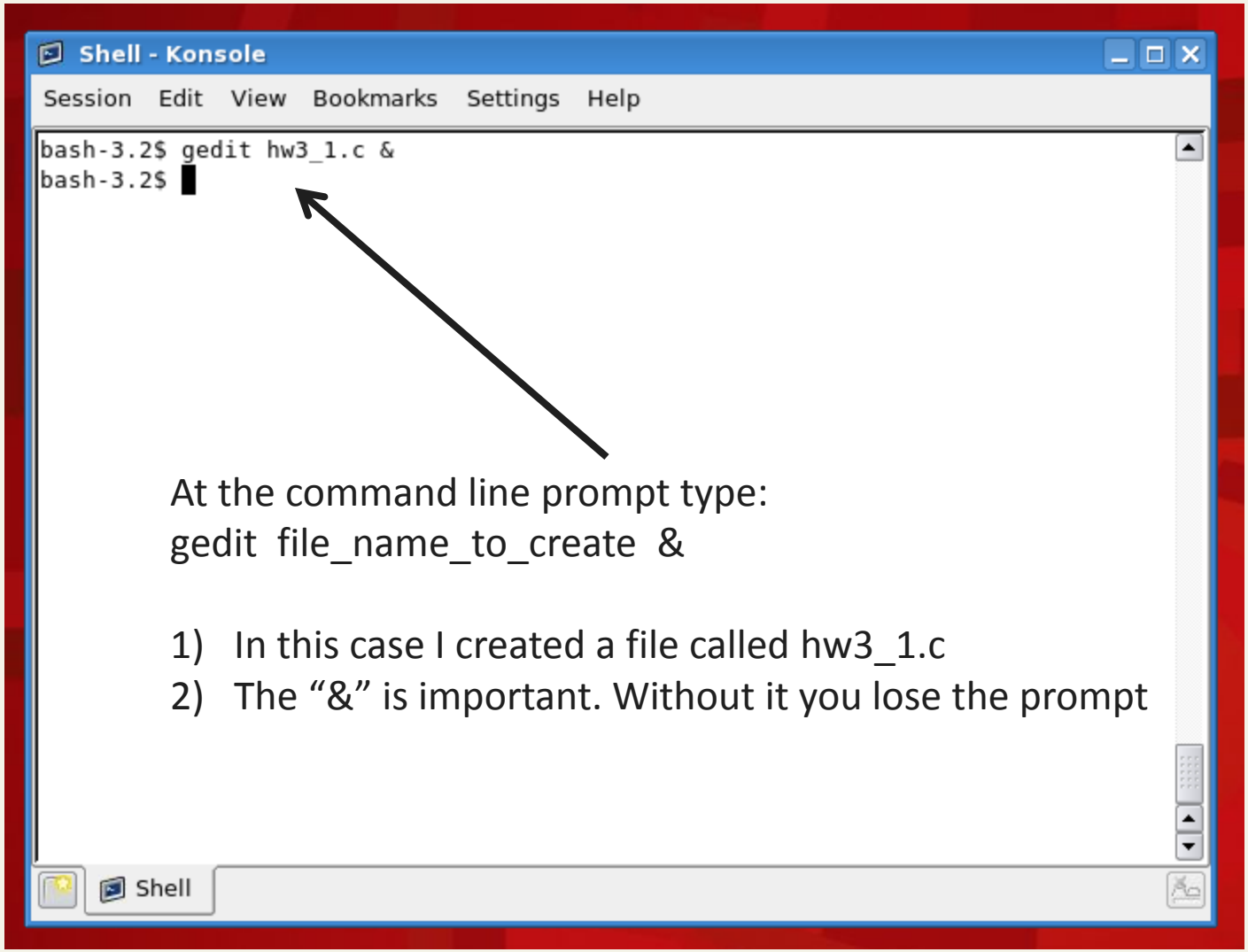
Linux Basics

- On-line Linux tutorial:
    - http://www.ee.surrey.ac.uk/Teaching/Unix/
- How do I know where I am
  - pwd (tells you your current location, use this command often)
- What is in my current location
  - ls (list all the files and directors at this location)
- Changing directories
  - cd directory_name
    - cd .. (takes you up one directory level)
    - cd ~ (takes you to your home directory)
- Making a new directory
  - mkdir new_directory_name

Compile a C program in Linux

- Note 1: The following slides assume you are using an Iowa State University (ISU) Linux machine
- Note 2: If you are not using an ISU machine, then you may need to use a text editor different from “gedit”

Open a file

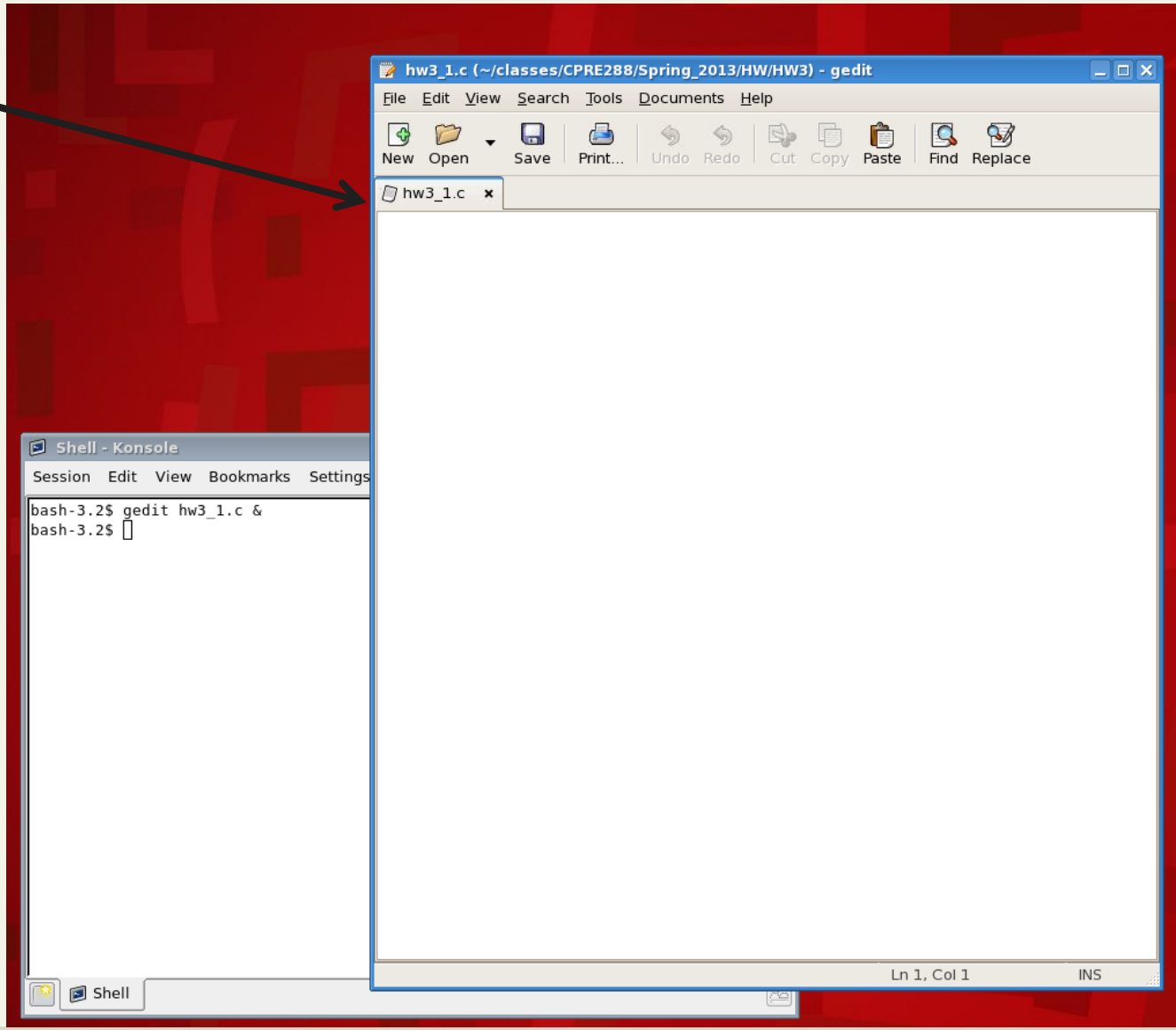


At the command line prompt type:
gedit file_name_to_create &

1) In this case I created a file called hw3_1.c
2) The “&” is important. Without it you lose the prompt

Blank File

A gedit window should open
Notice the name of you file on the tab



Add your C code

In this case I just copied from Word

Don't forget to SAVE

hw3_1.c (~/classes/CPRE288/Spring_2013/HW/HW3) - gedit

File Edit View Search Tools Documents Help

New Open Save Print... Undo Redo Cut Copy Paste Find Replace

hw3_1.c

```
// Append strt2 to str1
void my_strcat(char str1[], char str2[])
{
  //Your code goes here


}


// example of using my_strcat()

#include <stdio.h>

void main(void)
{

  char my_str1[50] = "hello ";
  char my_str2[] = "world";

  my_strcat(my_str1, my_str2);

  printf("%s \n", my_str1);

}
```

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Note: if you copy from Word the " " may not copy correctly. Just manually retype. See Next slide

Shell - Konsole

Session Edit View Bookmarks Settings

```
bash-3.2$ gedit hw3_1.c &
bash-3.2$
```

Shell

Add your C code

hw3_1.c (~/classes/CPRE288/Spring_2013/HW/HW3) - gedit

File Edit View Search Tools Documents Help

New Open Save Print... Undo Redo Cut Copy Paste Find Replace

hw3_1.c

```c
// Append strt2 to str1
void my_strcat(char str1[], char str2[])
{
  //Your code goes here




}


// example of using my_strcat()

#include <stdio.h>

int main(void)
{

  char my_str1[50] = "hello";
  char my_str2[] = "world";

  my_strcat(my_str1, my_str2);

  printf("%s \n", my_str1);

}
```

Ln 18, Col 15 INS

Shell - Konsole

Session Edit View Bookmarks Settings

```
bash-3.2$ gedit hw3_1.c &
bash-3.2$
```

Shell

Compile your code and execute it

hw3_1.c (~/classes/CPRE288/Spring_2013/HW/HW3) - gedit

File Edit View Search Tools Documents Help

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hw3_1.c

```
// Append strt2 to str1
void my_strcat(char str1[], char str2[])
{
  //Your code goes here
```

Ln 18, Col 15 INS

Shell - Konsole

Session Edit View Bookmarks Settings Help

```
bash-3.2$ gedit hw3_1.c &
bash-3.2$
bash-3.2$ gcc -o test hw3_1.c
bash-3.2$
bash-3.2$ ./test
hello
bash-3.2$
```

Shell

compile hw3_1.c and call the executable “test”.

Run the program that you just compiled called “test”

Output of the program. Note: I have not put any code for my_strcat