Introduction

CMSC 104

section 301

Problem Solving and Computer Programming

Fall 05

Am I in the Right Class?

- CMSC 104
  - Assumes NO programming experience
  - Does NOT count towards your CS major
  - Prepares you for CMSC 201
- CMSC 201
  - Assumes some programming experience
  - First CMSC course for CS majors
  - Also required for IFSM majors
  - More challenging

What Will We Cover?

- General computer hardware and software concepts
- Basic computer use
- Problem solving
- Basic computer programming in the C programming language

General Hardware and Software Concepts

- Introduction to computer architecture
- Data representation and memory usage
- Introduction to operating systems
  - Linux

Basic Computer Use

- Basic use of:
  - an operating system (Linux)
  - e-mail (pine)
  - a text editor (xemacs)
  - the Internet (Netscape and/or Internet Explorer)

Problem Solving

- Problem solving and algorithm development
  - general vs. specific solution to a problem
  - use of top-down design
  - use of pseudocode

Basic Computer Programming in the C Programming Language

- Compiling, linking, and executing a computer program
- Testing a computer program
- C programming language basics

Syllabus

- On the Web:
- www.csee.umbc.edu/courses/undergraduate/104
- Follow links to syllabus
- Refer to it throughout the semester

Getting a GL Account at UMBC

- You MUST have a GL account
- Go to room ECS 020 (in the basement) and ask at the desk, OR
- Using the Internet, go to:

  accounts.umbc.edu (NO www.)
- Your account can be used in approximately ½ hour

Changing Your Linux Password

- Log in by entering your id and password given on the sheet.
- At the Linux prompt type:

  passwd

  and press the Enter key.
- You will be prompted for your new password; type it in and press the Enter key.
- You will be asked to type the new password again.

Changing Your Linux Password

- You will be given a message that the password has been changed,
- OR you will be given a message that rejects your new password,
- Passwords should be at least 5 characters long and should be something you will remember.
- Your password will be rejected if it is a commonly used word or name.

Computer Science at UMBC

- CSEE Offices
  - ITE325
- CSEE Advising
  - ITE202-206
- CSHC (Computer Science Help Center)
  - ITE 201E.
- Linux Users Group (LUG)
  - http://linux.umbc.edu

OIT Labs

- The Office of Information Technology is responsible for all lab computers.
- On Web at: www.umbc.edu/oit
- Labs:
  - ECS 021 -- PCs, MACs, SGI Workstations
  - ECS 104 -- PCs
  - ECS 104A -- SGI Workstations
  - ECS 122/122A -- PCs
  - ECS 333 -- PCs
  - ECS 336 – MACs
- Labs may be on reserve so plan ahead!

OIT Labs (cont'd)

- Print Dispatch -- ECS 019 (? cents/page)
- Hours of Operations
  - Monday – Saturday 8:00am – midnight
  - Sunday 12:00 noon – midnight
  - end of semester,
    - Selected labs will be open 24 hours. Check OIT Web site for exact lab locations or see signs posted outside of labs.

Consultants vs. Tutors

- OIT labs are staffed by consultants
  - using software (pine, Netscape, etc.)
  - some text editors (xemacs, pico)
  - operating system commands (Linux)
  - cleaning floppy disks (viruses)
  - communicating with UMBC computers

Consultants vs. Tutors (con't)

- CSHC is staffed by student tutors
  - Help with homework and projects
  - xemacs and Linux questions
  - ITE 201E -- Hours to be announced
- UMBC Tutorial Center
  - Academic IV Building,
  - B-Wing Room 467

Hardware and Software Needs

- Do I need my own computer?
  - No, but it is more convenient for you.
- If I have my own computer, can I use it?
  - Sure, but you will use it mostly to log in to your GL account or for word processing.
- Do I need a C Compiler?
  - No, and you probably shouldn't buy one. All programming should be done in your GL account.

Lecture Notes

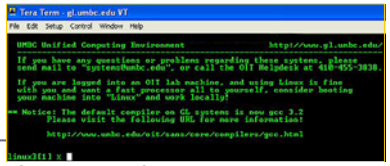
- Portable Document Format (PDF) files can be viewed by *Adobe Reader*

- Power Point (PPT) files could be viewed by *PowerPoint Viewer 2003*

Using Your Own Computer: telnet

- Connect to your Internet Service Provider (ISP)
- If using Windows 95/NT/98,
  - Click Start
  - Click Run
  - Type: ssh linux.gl.umbc.edu
- Consult OIT for help

ssh

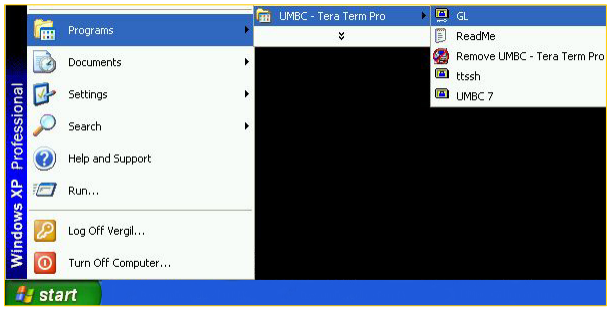


- SSH is a command line interface used to securely access a remote computer.
- Secure Shell (SSH) is a program to log into another computer over a network, to execute commands in a remote machine, and to move files from one machine to another. It provides strong authentication and secure communications over unsecure channels. It is intended as a replacement for telnet, rlogin, rsh, and rcp
- UMBC has disabled telnet as a way of communicating with our computers.
- Now you must use ssh instead.
- If you don't have it, get the UMBC CD and install **Tera Term** on your Windows based computer.

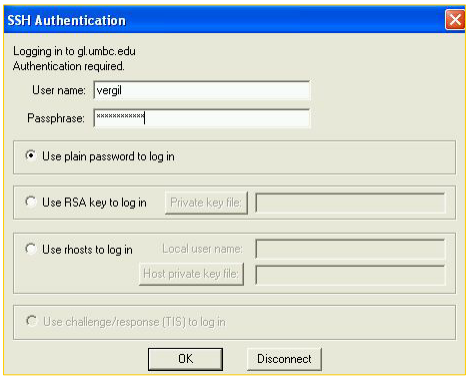
http://www.umbc.edu/oit/sans/desktopsupport/downloads/

- Or Google for --- umbc Tera Term

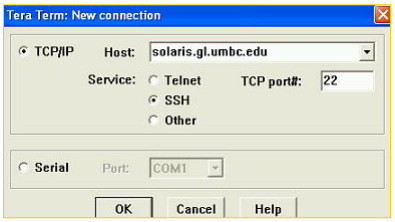
Step 1: Opening TeraTerm



SSH-ing into the GL



SSHing to a Specific Server using the ttssh Icon



SSH Connection Established