

Objectives

- Lab 1 Feedback
- Why Linux/UNIX?
- Lab 2

Lab 1 Feedback

- Lookin' good
 - Good commenting
 - Good naming of variables
 - Good test cases

Lab 1 Feedback: Variable Names

- Use descriptive variable names
 - Example: for atomic weight, the input from the user about the number of hydrogen atoms:
 - num_h
- Begin with lowercase letter for typical variables
- All caps for constants
 - Variables that don't change during program execution

Lab 1 Feedback: Testing

- Demonstrate that your program works using **several different** test cases when there is user-input
 - Use well-known test cases, when applicable
 - For example with F-->C, use 32F, 212F
- Don't show me testing from when you were developing the program
 - Only after you've done all testing/debugging
 - Restart IDLE shell to get rid of previous testing results

Lab 1 Feedback: Data Types

- Don't need to use constructor/converter if variable is of correct data type
 - `x = raw_input("...")`
 - x is a string
 - `print "You entered" + x + "."`
 - Note don't need to use `str(x)` because x is already a string

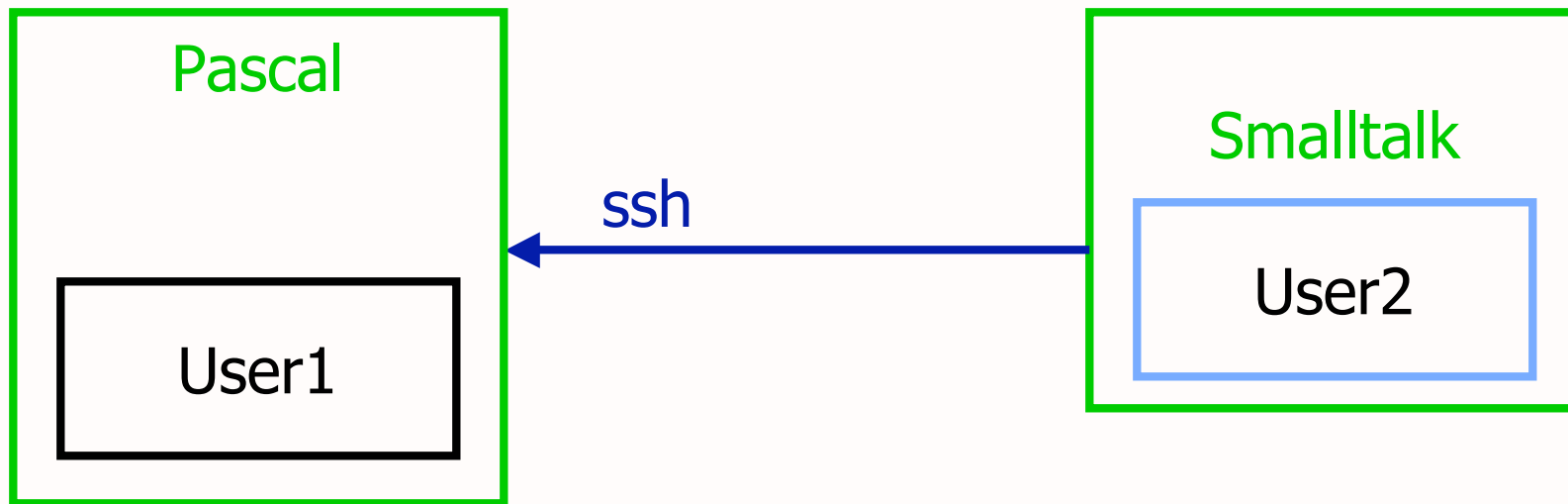
Why Linux/UNIX?

- Depending on who you ask, you'll get different answers

Why Linux/UNIX?

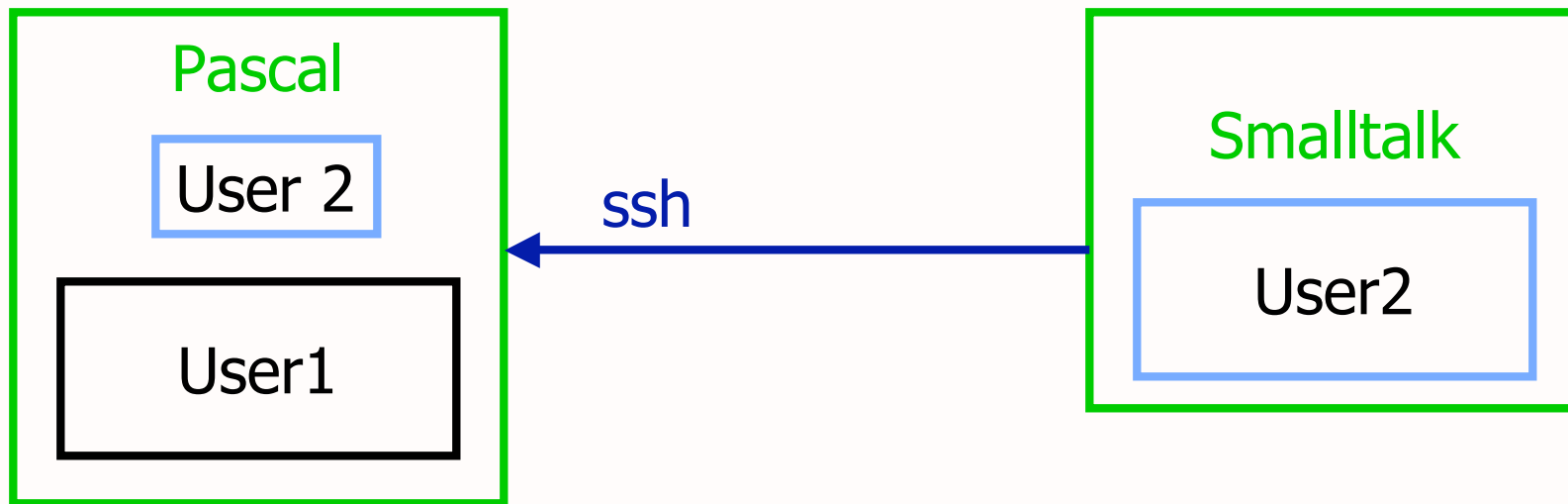
- Operating system reasons
 - Stability -- reboot less often
 - Efficiency (requires fewer hardware resources)
 - More secure (fewer viruses)
- User operations efficiency
 - Reduce amount of time that user's hands leave keyboard
 - Reduce mouse clicks
- *Real* multi-user capabilities
 - More than one user can use the machine's resources

Using Machine Resources Remotely



- User1 physically sitting at machine named **pascal**
- User2 physically sitting at machine named **smalltalk**
- User 2 remotely logs into pascal using ssh
 - SSH: secure shell protocol

Using Machine Resources Remotely



- User2 can execute programs *remotely* on **pascal** machine from command line
 - Can't use desktop manager
- User1 and User2 share pascal's resources

Benefits of Remote Access

- Utilize more resources
 - Compute partial answers on different machines
 - Combine partial answers into final answer
 - Fewer idle CPU cycles
 - Take advantage of other machine's resources
- Applications:
 - Distributed and parallel processing
 - Scientific computing

Lab 2

- Focus: formatting output, for loops
- Practice using Linux remote access
- Less help on stuff you should know
- Less help on initial problem-solving steps
 - Simulate the problem/solution on paper
 - Write out your algorithm on paper