Python

- Easy to use programming language
- What makes Python so easy to use compared to many other programming languages?
  - interpreted vs. compiled
  - dynamic vs. static typing
  - runs equally well on most computer systems (linux, windows, mac, etc.)
Installing Python On Windows

- Visit the textbook resource site:  
  - http://tinyurl.com/63ushvt
- Click on the “Book related software” link

Open the Software Package
You’ll See the Installation Folder

You’ll Find Three Packages You Can Install
Install Python
(you don’t need to install the others yet)

Work Through the Python Installation Wizard
Welcome to IDLE, the Python Integrated Development Environment

Options/Configure Idle/General
so the edit window will open automatically
Write Programs in the Editor or Run Instructions in the Shell

What Is an Integrated Development Environment (IDE)?

- Provides a way to enter your program instructions (code editor)
- Convenient way to execute instructions within the environment (interactive mode)
- Convenient way to “debug” the program
- Makes software development much less complex
Some Other IDEs for Python

- Eric5
- Geany
- ActiveState Komodo
- MonoDevelop
- PyScripter
- Python Tools for Visual Studio
- Spyder
- SPE – Stani’s Python Editor

Python.org

- Official website for Python
- You can download the most recent version (3.3.0)
- Should you use the 3.1 version from book site? There have been some changes between 3.1 and 3.3, but we probably won’t encounter them.
- If you want to play it safe, stick with 3.1
The Python Interactive Mode Runs From the Python Shell

- Try the “print” function
- Used in a Python program to display a message
- Often the message is a string of characters surrounded by quote marks

```
print("Welcome to CS161")
```

The Interactive Mode Immediately Executes a Python Instruction

```
Python 3.1.1 (r311:74483, Aug 17 2009, 17:02:12) [MSC v.1500 64 bit (AMD64)]
Type "copyright", "credits" or "license()" for more information
>>> print("Welcome to CS161")
Welcome to CS161
```
The Syntax of the Python print Instruction

- Starts with the word “print”
- Case sensitive: upper/lower case matters
- The thing you want to print is called an argument to the print function and is surrounded by parentheses:
  - `print(...)`
- If a text message, surround it with quote marks:
  - `print("Welcome to CS161")`

Using Script Mode

- Interactive mode doesn’t save instructions for later use
- Script mode is used to create programs that can be executed later
- Use the IDLE editor to enter Python instructions
Enter the Code
Select Run/Run Module

Comments

• Notes you write yourself within the code
• Use a “#” to begin a comment
• Python ignores everything that follows the “#”
• Helps you remember how the program works if you step away for a few days
• Also helps others that may need to understand how your program works
• You may also use blank lines to improve the readability
Using Comments to Identify Yourself

- Every program should start with one or more comment lines that identify the author and the program:

  ```
  # Copyright © 2013 Warren Harrison
  # Homework Assignment 1
  ```

- We expect every piece of code you hand in to follow this standard – we won’t mention it explicitly in the assignments.

Using the `input` function to display a prompt

- `Input(“Hit <Enter> key to continue”)`
- Displays a message and then waits for the user to press the <Enter> key
Using Python on the CS Linux System

- Login to the CS Linux System, either in the Lab or remotely through a terminal program like PuTTY (see http://www.putty.org/)
- For remote access, install the terminal client PuTTY (putty-0.62-installer.exe) from http://tinyurl.com/2r4w and login to linux.cecs.pdx.edu

The Linux Command Line
The Python Interactive Mode Under Linux

Creating Python Programs In Linux

- Use a text editor to type in instructions
- `nano` is a popular Linux editor
- `nano hello.py`
- Save the program and then run it using `python3`:
  - `python3 hello.py`
What About Macs?