

# CompSci 6

# Introduction to Computer Science

November 8, 2011

Prof. Rodger

# Announcements

- No reading or RQ
- Assignment 5 due Thursday
- New APT out Thursday – one APT
- Practice Test problems out – will go over on Tues. Nov 15
- Prof. Rodger no office hours this week
- Today
  - Finish example from last time
  - More on sort options
  - Regular Expressions

# More on sort

- Import operator
  - `fruit = [("pear",5),("apple",9)]`
    - `fruit = sorted(fruit)`
    - `fruit.sort()`    OR    `fruit = sorted(fruit)`
  - arguments
    - `key=itemgetter(0)`
    - `reverse=True`

# Regular Expressions

- Part of the compiler process
  - Can write a regular expression for each type of word in a programming language
  - Example
    - Key words – if, else, elif, while
    - Integers – 456, 78, 2, -56
    - Float – 3.14, 7856.2345
    - String – ‘word’, “this is a phrase”
    - Special symbols – [ ] + %

# Regular Expressions

- $a$  -  $a$
- $a^*$  -  $a$  repeated 0 or more times
- $a^+$  -  $a$  repeated 1 or more times
- $a?$  -  $a$  0 or 1 time, so  $a$  is optional
- $^$  - match at the beginning of the string
- $$$  - match at the end of the string
- $.$  - matches anything
- $[abc]$  - match  $a$ ,  $b$ , or  $c$
- $[a-z]$  - match any character from  $a$  to  $z$
- $[^a]$  - match any character but  $a$

# More on regular expressions

- | - or
- \b - word boundary
- \s - whitespace character
- \d – match any digit
- When using backslashes – must use r in front of string

# Regular expressions with re

- `import re`
- `re.sub()` – substitute
- `re.compile()` – create a pattern
- `re.findall()`
- See examples