

# CS150 - Basic Data Types

Note Title

1/24/2012

## Announcements

- Help session: Tuesday 5pm

Additional session: Tuesday afternoon  
Thursday

Tuesday 12:36

- First HW - due Sat.

# Data Types in Python

↙ Ch. 2

$$(100)_2 = 4$$

Python has many useful built-in ways to represent data.

Ex:

- Numbers

Many types: integers (up to a max value)  
long (up to 64-bits)  
real # - float; complex

↙ 32-bit:  $2^{32} - 1$

- Strings

- words

- Lists

Numbers: int, float, long, complex

A handwritten diagram with red arrows. The word "integer" is written above "int" and "float", with arrows pointing to each. The word "real" is written below "float", with an arrow pointing to it.

Each type has a set of operators:

+ , - , \* , / , // , %

A handwritten diagram with red arrows. A red oval encircles the operators /, //, and %. An arrow points from the text "standard" to the / operator. An arrow points from the text "quotient (division gives int part)" to the // operator. An arrow points from the text "remainder" to the % operator. Another arrow points from the text "division" to the % operator.

Lists: a built in class

Create a list:  
groceries = list()

lower case

variable name

constructor

groceries = []

## Available Functions - See p. 42 in Ch. 2

- append (value)
- insert (position, value)
- remove (value)
- len (list name)
- count
- pop()
- reverse()
- ...

- Write a short program that will rearrange a list into reverse alphabetical order

- Write a statement that takes a list named "houses" and creates a new list "Somehouses" which contains every other entry

- Make a list ['orange', 'banana', 'grape']  
+ replace banana with 'lime' in  
2 different ways