CS111 STUDY GUIDE FOR THE SECOND TEST

FALL 2013

Python Language. You should be able to use these Python language constructs.

- **lists**
- **tuples**
- **dictionaries**
- **sets**
- File input and output
- The **try** statement and catching exceptions.
- Operators like **in not in**, used with these data structures. The difference between **is** and **==**.

Working with objects.

- For the new objects in the above list (and including strings and files), you should be able to define one, add elements to it, be able to check whether an element is there, and be able to iterate through its contents.
- You should know the meanings of **mutable**, **iterable**, **sequential** and which terms apply to which objects.
- Be familiar with the dotted methods that attach to these new data types. You don't have to memorize the lists, or be able to recall exactly how they work. But you should be able to recognize one if mentioned on the test and be able to make a reasonable guess on how to use it.
- Understand the differences between simple types and objects with respect to references (pointers).

Programming skills.

- Recursion!!! Know it like you know nose on your face.
- Parsing. Be familiar with the basic strategy for using a loop to "run over" a string and identify its components.
- Choosing a data structure. Be able to discuss the pros and cons of using different data structures for a given task. When would you use a tuple instead of a list? When would you use a list of chars instead of a string? What can dictionaries do that sets can't do? Given this set of tasks X, which data structure would you use (justify your answer)?