Outline for February 22, 2012

Reading: §20

1. Dictionary
   a. Collection of key-value pairs
   b. What a “mapping” is
   c. Mutable
2. Creating dictionaries
   a. Using \texttt{d = \{\}}
   b. Using \texttt{d = dict()}
3. Methods for dictionaries
   a. \texttt{k in D}: True if dictionary \texttt{D} has key \texttt{k}; else False
   b. \texttt{D.keys()}: list of keys in \texttt{D}
   c. \texttt{D.values()}: list of values in \texttt{D}
   d. \texttt{D.items()}: list of tuples (key, value) in \texttt{D}
   e. \texttt{D.get(k, d)}: if key \texttt{k} in \texttt{D}, return associated value; else return \texttt{d}
   f. \texttt{del D[k]}: delete tuple with key \texttt{k} from \texttt{D}
   g. \texttt{D.clear()}: delete all entries in \texttt{D}
4. Example: memos
   a. Recursive Fibonacci \texttt{[rfibmemo.py]}
5. Sorting the dictionary
   a. \texttt{sorted} sorts based on keys
6. Example: word frequency count
   a. Unsorted \texttt{[wfc-1.py]}
   b. Sorted alphabetically \texttt{[wfc-2.py]}
   c. Sorted alphabetically, but dictionary order \texttt{[wfc-2a.py]}
   d. Sorted by frequency \texttt{[wfc-3.py]}
   e. Sorted by frequency first, the alphabetically \texttt{[wfc-4.py]}