CSC 108H: Introduction to Computer Programming

Summer 2011

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Administration

- Midterm next week.

- 90 minutes.

- HS 610; 6:10pm.

- Old midterms posted online.

- Don't need to know any `media` stuff.

- Review in the second half of lecture.

- Office hours:

  - Friday this week from 2-4.

  - Monday and Wednesday next week from 12-2.

Files.

- So far we've seen some basic file stuff.

- Media opens files

- Assignment two has a method that opens a file.

Files as types.

- Python has a type used to deal with files.
- There are four main things we want to do with files:

    - Figure out how to open them.
    - Figure out how to read them.
    - Figure out how to write to them.
    - Figure out how to close them.

Opening files.

- Can hardcode the filename in the code.
  - Like done in assignment 2.
- Can ask the user for a file name using raw_input()
- Some modules have their own builtin functions for opening files.
  - `media` has `choose_file()` which opens a dialog window.

Opening files.

- Once we have a filename we can call open:

    `open(filename, 'r')` – for reading (this is the default mode).

    `open(filename, 'w')` – for writing (erases the contents of a file).

    `open(filename, 'a')` – for appending (keeps the contents of the file).

- This function returns a new object, a file object.

Reading Files.

- The most basic way is the read the whole file into a string:

    `filename.read()` - returns a string that is the contents of the entire file.

  - Not recommended for big files.

- Can read a single line of the file.

    `filename.readline()` - reads a line of the filename.

  - A subsequent call the readline() will read the next line of the file, the first line is lost.

Reading Files.

- Can read a fixed number of characters.

    `filename.read(10)` – will read 10 characters.

    - If you call it again, it will start reading from the place after the characters that it has read.

- Can read the file a line at a time.

    ```
    for line in filename:
            print line
    ```

- Note that the string `split` method is often very useful.

Writing to Files.

- Write to files using:

  ```
  filename.write("This is a string")
  ```

- Multiple writes are concatenated.

- Need to open a file in append or write mode to write to it.

- Append mode will add the strings to the end of the file.

Closing Files.

- Close a file with:

    filename.close()

- Generally a good idea.

- Frees up system resources.

Midterm Review and Assignment Questions.

- Done in shell.