

## CS100J

**Today's topic: Objects and classes**

**Reading for this lecture:** Section 1.3

**PLive:** Activities 3-3.1, 3-3.2, 3-3.4 (not 3-3.3), 3-4.1, 3-4.2.

**Summary of lectures:** On course home page, click on "Handouts" and then "Outline of lectures held so far".

**Quote for the day:**

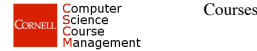
**Computers in the future may weigh no more than 1.5 tons.**  
--Popular Mechanics, forecasting the relentless march of science, 1949

## About CMS

CMS is the course management system that we use to maintain grades handle submitted assignments, post grades, handle regrades, etc.

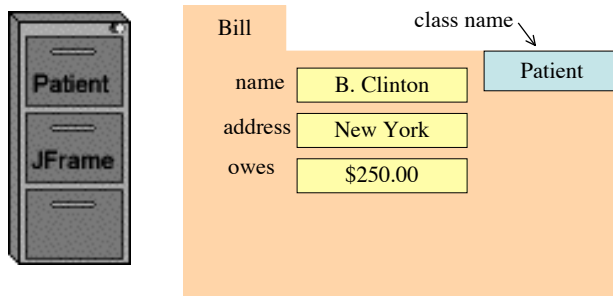
Please look at this URL: <http://cms.csuglab.cornell.edu/>

It will ask for your cornell netid and password. After you have entered it, you should see on the right something like this:



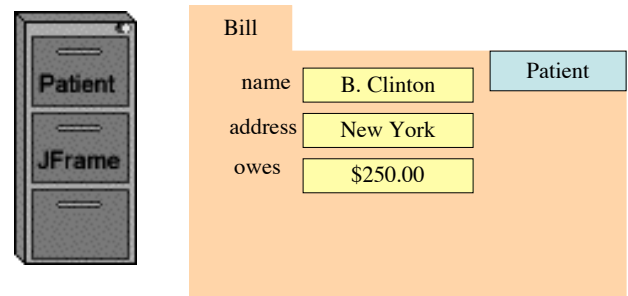
If it lists CS100J, click on it, and you are in the CMS. If it says "None", then you are not yet enrolled in the CMS. In this case, email Stacey Shirk at [shirk@cs.cornell.edu](mailto:shirk@cs.cornell.edu) and ask her to register you in the CMS for CS100J.

**A class is a file-drawer.** Contents: manila folders, each containing the same kind of information



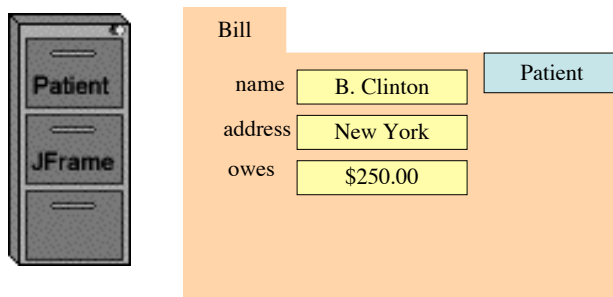
**manila folder:** an **object** or **instance** of the class

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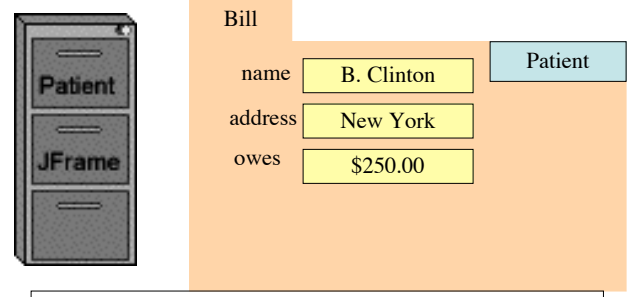
name, address, owes: **variables**, called **fields** of the folder

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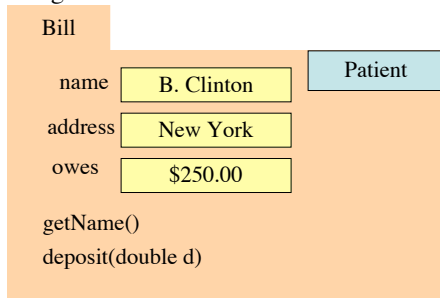
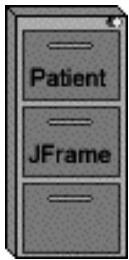
Name on tab (Bill): can be anything you want, as long as it is unique

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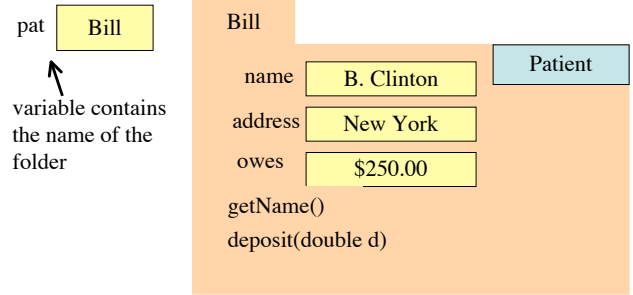


**Instructions to be carried out by different people:**  
change the name, get the name, bill the patient, receive money from patient, insert teeth xrays into the folder, ...

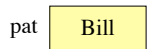
**A class is a file-drawer.** Contents: manila folders, each containing the same kind of information



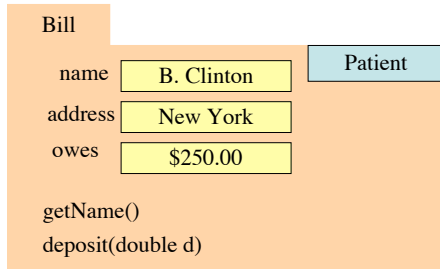
**Instructions to be carried out by different people: methods**  
 getName is a **function** --it returns a value  
 deposit is a **procedure**. It does some task, doesn't return value



**pat.getName()** function call. Its value is "B. Clinton"  
**pat.deposit(250.0);** procedure call. Change the value of field **owes** to 0.



variable contains the name of the folder



**new Clinton()** An expression that creates a new folder, puts it in file-drawer Clinton, and gives as its value the name of the folder.

**pat= new Clinton();** A statement that creates a new folder, puts it in file-drawer Clinton, and stores the name of the folder in variable pat.

**package:** A collection of classes that are placed in the same directory on your hard drive. Think of it as a room that contains file cabinets with one drawer for each class.

package **java.io** classes having to do with input/output

package **java.net** classes having to do with the internet

package **java.awt** classes having to do with making GUIs

package **javax.swing** newer classes having to do with GUIs

To reference class **JFrame** in package **javax.swing**, use:

**javax.swing.JFrame**

Instead: **import javax.swing.\*;**

Then use simply **JFrame**

The expression

**new JFrame()**

creates a new folder that goes in file drawer JFrame.

The statement

**jf= new JFrame();**

creates a new folder and places its name in variable jf (jf should have first been declared).

Thereafter, use

**jf . method-name ( arguments, if any )**

to call methods of folder (object) jf.