

First name (color-in initial)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	section (10, or 11)	first name initial	last name initial
Last name (color-in initial)	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z			

H07: Due Wednesday 04.17 in Lab. Total Points: 50

Inheritance, Interfaces, Abstract Classes, Polymorphism (HFJ Ch7,8)

MAY ONLY BE TURNED IN DURING Lab ON Wednesday 04.17, or offered in person, for in person grading, during instructor or TAs office hours.

See the course syllabus at <https://foo.cs.ucsb.edu/56wiki/index.php/S13:Syllabus> for more details.

(1) (10 pts) Fill in the information below. Also, fill in the A-Z header by

- **coloring in** the first letter of your first and last name (as it would appear in Gauchospace),
- writing **either 10,11** to indicate your **discussion section** meeting time
- writing your **first and last initial** in large capital letters.

All of this helps us to manage the avalanche of paper that results from the daily homework.

name:	
umail address:	@umail.ucsb.edu

Reading Assignment:

We are moving right along, reading two more chapters. These two chapters are short, and a good bit of this is basic review of OOP concepts you may have already seen in CS24 (and possibly in CS32 if you took that, which is recommended, though not required, as a pre-req to CS56).

- HFJ, Chapter 7, **165** through 196 and reading notes HFJ:Chapter _7
- HFJ, Chapter 8, **197** through 235. HFJ:Chapter _8
- If there are reading notes on the wiki, consult those too—sometimes they contain helpful hints.

(2) (12 pts) Based on your reading in HFJ Chapter 7:

Complete the following exercise from p. 179, putting a check next to the relationships that make sense.

Oven extends Kitchen	Beagle extends Pet
Guitar extends Instrument	Container extends Jar
Person extends Employee	Metal extends Titanium
Ferrari extends Engine	GratefulDead extends Band
FriedEgg extends Food	Blonde extends Smart
	Beverage extends Martini

(4) (4 pts) Based on your reading in HFJ Chapter 7:

What does it mean to have a "polymorphic argument" or a "polymorphic return type" for a method? Explain with an example—but NOT using the example of Vets and Animals used in the book. Substitute your own example. Give a detailed enough description of the class hierarchy you have in mind to make it clear that you get the concept.

(5) (4 pts) Based on your reading in HFJ Chapter 8:

Briefly describe the difference between an abstract class and an interface.

(8) (20 pts) There is code on p. 103 for a class to "test" the first iteration of the "sink a dot com" game developed in Chapter 5. Rewrite this as a class that uses JUnit testing (as illustrated in lab02).

If necessary, consult the material about JUnit from lab, lecture notes, and the web.