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 (2,3,or 9)	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			

H08: Due Tue 01.31 in Lecture. Total Points: 50

MAY ONLY BE TURNED IN DURING THE CLASS INDICATED ABOVE, 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/W12:Syllabus for more details.

Reading Assignment:

- For H09, Read HFJ:Chapter_10, starting on p. **273** Numbers Matter
- If there are reading notes on the wiki, consult those too—sometimes they contain helpful hints.
- This is the last homework before Midterm 1, and will be graded before your Thursday/Friday lab and returned to you in lab this week.

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(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 appears in Gauchospace),
- writing **either 2, 3 or 9** 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

(2) Consider these questions about static methods:

- (3 pts) Does it ever make sense to have both static and non-static methods in the same class?
    - If so, does it ever make sense to create an instance of such a class?
- (3 pts) Does it ever make sense to have all static methods in a class?
    - If so, does it ever make sense to create an instance of such a class?
- (3 pts) Does it ever make sense to have all non-static methods in a class?
    - If so, does it ever make sense to create an instance of such a class?
- (3 pts) Is it possible to invoke a non-static method of class Foo without an instance of class Foo?
- (3 pts) Is it possible to invoke a static method of class Foo without creating an instance of class Foo?

(3) (3 pts) What does final mean when applied to a static variable?

(4) (3 pts) What does final mean when applied to a non-static variable?

(5) (3 pts) What does final mean when applied to a method?

(6) (3 pts) What does final mean when applied to a class?

(7) (3 pts) Write a line of Java code that would result in auto-unboxing

(8) (10 pts) Write a class in Java with a main program equivalent to the following C program. (Hint: Use the Math and classes and formatting methods of the String class described in Chapter 10.)

```
#include <math.h>
#include <stdio.h>

int main()
{
 int i;
 for (i=0;i<=10;i++)
 {
    double value= sin((i/10.0) * (2 * M_PI));
    printf("i=%3d  value=%6.3lf\n", i, value);
 }
 return 0;
}
```