Name: *(as it would appear on official course roster)*		
Umail address:	**@umail.ucsb.edu**	section 4, 5, or 6
Optional: name you wish to be called if different from name above.		
Optional: name of "homework buddy" (leaving this blank signifies "I worked alone"		

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You may collaborate on this homework with AT MOST one person, an optional "homework buddy".

H02: Due Friday, 01.08 in GradeScope

H02

CS56 W16

Integer/String conversion, Random Numbers, Getters/Setters (HFJ Ch 4,5)
Assigned: Mon 01.04 Total Points: 50

MAY ONLY BE TURNED IN IN THE LECTURE/LAB LISTED ABOVE AS THE DUE DATE, OR IF APPLICABLE, SUBMITTED ON GRADESCOPE. There is NO MAKEUP for missed assignments; in place of that, we drop the five lowest scores (if you have zeros, those are the five lowest scores.)

- Review HFJ:Chapter_4 and reading notes
- Read Chapter 5 in HFJ, pages 95-124 and reading notes: HFJ:Chapter_5

1. (10 pts) Fill in the homework header properly—this helps us keep the grading pipeline flowing so that you get credit for your work and get feedback more quickly.
   - writing **either 4, 5, or 6** to indicate your **discussion section (lab)** meeting time
   - entering BOTH your name AND your umail address EVERY time.

   Paper submissions: One sheet of 8.5x11 paper double sided, or two DISCONNECTED SHEETS with your name on EACH. Please: **NO STAPLES, NO PAPERCLIPS, NO TAPE, NO ATTACHMENT OF ANY KIND**. These damage the document scanner.

   Scanned submission: When submitting by PDF upload: scan your pages legibly and **SCAN IN THE CORRECT ORDER**. Page 1 first, then Page 2, in the correct orientation. Failure to scan properly may result in zero credit, meaning you "use up" one of your five "drop the lowest grade" slots.

For submission via Gradescope:

- Visit http://www.cs.ucsb.edu/~pconrad/gshints for hints on submission
- Scan pages in **correct order**.
- Email and paper submissions **NOT** accepted for GradeScope assignments.
- Start early. "I couldn't figure out GradeScope" is not an acceptable excuse.

2. (10 pts) Write a few lines of code that demonstrate how to take a integer value that is in a String, and convert it to an integer value in an int variable. You can find an example of this in Chapter 5.

3. (10 pts) (From Chapter 5) Assume that `n` is an int variable that has already been assigned some value greater than or equal to 1. Write a few lines of Java code that declare a new int variable `x` and assign it a random integer between 0 and n-1 (inclusive, uniformly distributed over all n possible values.)

4. (10 pts) Frequently asked "job interview" question that comes from somewhere in chapter 4 or 5: briefly explain: part of Object-Oriented Programming is "encapsulation". What is "encapsulation"?

2

H02

CS56 W16

5. (10 pts) Based on your reading on p. 79 in Chapter 4: assume you have a class for a student with attributes name (of type String) and perm (of type int). Write setters and getters for name and perm as they would appear inside the student Class. The rest of the class has been written for you below---just fill in the missing parts. (Note that for purposes of this homework assignment, we have left out "public" and "private" since they are not yet covered in the book on p. 79, but later in the course you'd be expected to include them as appropriate.)

```
class Student {
  String name;
  int perm;

  // Now, you please fill in getters and setters for name and perm here.
  // That is all you need to write for this class.
  // For full credit, follow the naming conventions illustrated on p. 79.

}
```