

Welcome to CS367

Introduction to Data Structures

Take a copy of the yellow course information handout.

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Course website: <http://pages.cs.wisc.edu/~cs367-1/>

Piazza: <https://piazza.com/class#summer2013/cs367>

Course Content

- lecture
- on-line readings
- course website
- piazza
- no textbook

Email bgibson@cs.wisc.edu by Friday if you:

- have a conflict with any of the exams
- participate in religious observances that may interfere with course requirements
- have a VISA from the McBurney Center

Course Work

Exams (24%)

- Midterm (20%): Thursday July 11th, in class
- Final (26%): Thursday August 8th, in class

Programming Assignments (30%)

- 3 programs, 10% each
- pair programming is allowed
- late policy:
 - up to 3 days late with penalty
 - 3 “free days” cancel penalty

Homework Assignments (24%)

- 8 homeworks, 3% each
- no collaboration is allowed
- not accepted late

What makes software good?

What makes code reusable?

Abstract Data Type (ADT)

Example: Box ADT

Using the Box ADT

The Box ADT

Conceptual picture

Public interface/operations

```
void add(Object item)
Object remove() throws NoSuchElementException
boolean isEmpty()
```

How do we code the Box ADT in Java?

Using the Box ADT: Example 1

Complete the printBox method: prints the contents of box

Challenge: Implement printBox so that it doesn't change the contents of the Box.

```
public static void printBox(BoxADT box) {
```

Implementing the Box ADT Using an Array of Objects

Using the Box ADT: Example 2

Assume Die is a class representing dice and box is a BoxADT.
Why doesn't the following code compile?

```
for ( int i = 0; i < 10; i++ ) {  
    box.add( new Die() );  
}  
  
while ( !box.isEmpty() ) {  
    Die myDie = box.remove();  
    myDie.roll();  
}
```