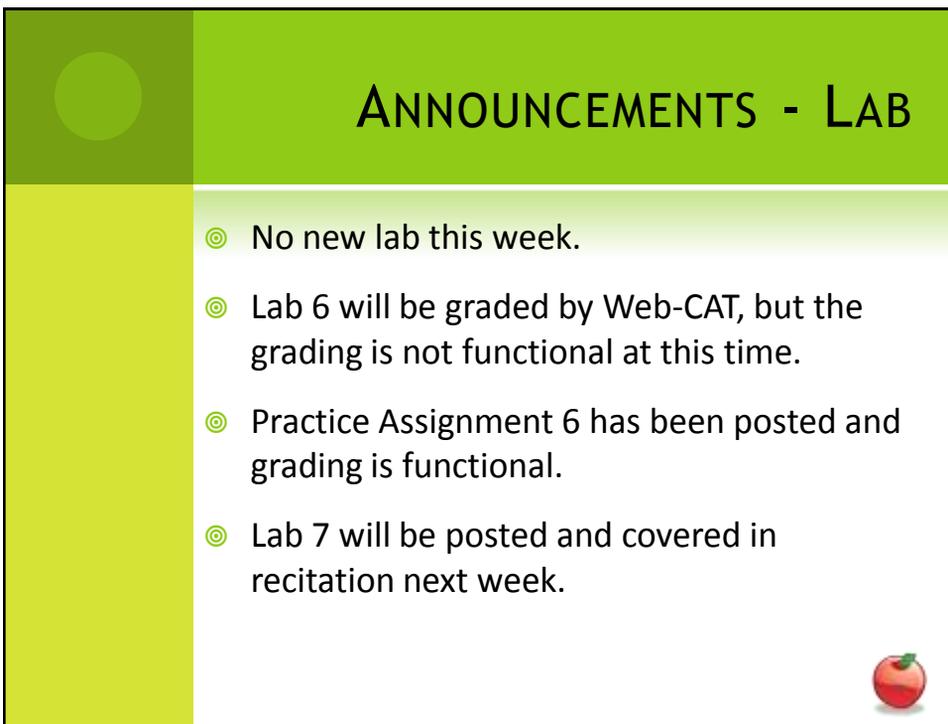


**CSE 113 B**  
March 21-25, 2011



## ANNOUNCEMENTS - LAB

- ⊙ No new lab this week.
- ⊙ Lab 6 will be graded by Web-CAT, but the grading is not functional at this time.
- ⊙ Practice Assignment 6 has been posted and grading is functional.
- ⊙ Lab 7 will be posted and covered in recitation next week.



## ANNOUNCEMENTS - PRACTICAL EXAM 2

- ⊙ Week of 3/7 & 3/21 in recitation
- ⊙ Schedule of when you are scheduled to take the exam will be posted on the Practical Exam 2 information page (which is linked off of the Schedule page).
- ⊙ Information about what material will be on the exam is also posted there.



## ANNOUNCEMENTS - EXAMS

- ⊙ Pick up Exam 1 & 2 if you have not already done so.
- ⊙ Exam 3 Monday, April 11<sup>th</sup> in lecture (covers Chapters 6-8).
- ⊙ Review for Exam 3 on Friday, April 8<sup>th</sup>.
- ⊙ Review sheet will be posted on or around April 1<sup>st</sup>.



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## REVIEW: MOTION USING VECTOR

- ⊙ Vector – an (invisible) arrow that has a direction and a length
- ⊙ Inside the scenario is a class named Vector
- ⊙ It had several useful methods



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## REVIEW: MOTION USING VECTOR

- ⊙ SmoothMover was already part of the scenario as well.
- ⊙ Works with the Vector to help with movement.



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## REVIEW: MOTION USING VECTOR

- ⊙ Rocket (or any subclass of SmoothMover)
- ⊙ First, we asked the Rocket to move by putting the method call `move()`; into the `act` method of the Rocket.
- ⊙ When we did that – the Rocket didn't move.



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## REVIEW: MOTION USING VECTOR

- ⊙ Getting the `move()` to work properly.
- ⊙ If a programmer wants a SmoothMover to move, we have to set its Vector to have a length other than zero.
- ⊙ **Look for `super()` in the constructor of Rocket.**



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## REVIEW: MOTION USING VECTOR

- ⦿ Edges of World
- ⦿ We used the getX and getY methods of Actor to figure out if the Rocket was at the edges of the screen.
- ⦿ When the Rocket reached the edge, we had it “wrap” around.



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## REVIEW: MOTION USING VECTOR

- ⦿ Turning
- ⦿ We called setRotation() on the image for the Actor – this caused the image to rotate, but the direction of motion didn’t change.
- ⦿ We needed to also change the direction of the Vector to get the actor to move in the direction the image was facing.



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## REVIEW: MOTION USING VECTOR

### ⊙ Collisions

- ⊙ Used one of the following methods from Actor
  - getOneIntersectingObject
  - getOneObjectAtOffset
  - getObjectsInRange
- ⊙ These methods return the actor that is being collided with or the value null if no collisions are detected.



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## GETOBJECTS

- ⊙ The method getObjects is inside the World and returns all objects of a particular type that are in the world.
- ⊙ We can also use getObjects to get ALL of the objects that are in the world (regardless of type).



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## COLLECTIONS

- ⊙ Collections are groups of things.
- ⊙ In Java, the package `java.util` contains the definition for many different types of collections.
- ⊙ In the example, we declared a variable like this:
- ⊙ `java.util.List<Barrel> listOfBarrels`
- ⊙ “There is a variable named `listOfBarrels` that holds on to a list of barrels.”



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## FOR-EACH LOOP

- ⊙ The for-each loop is a specialized loop that is used by programmers when he/she wants to iterate over a collection and do something to each element of the collection.

- ⊙ Syntax:

```
for(TypeOfElementInCollection nameOfVar: nameOfCollection)
{
//what to do with each element of the collection
}
```



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```
for(Item i: listOfItems) {  
    i.putAway();  
}
```

“For each item i in the listOfItems, put it away.”

