CompSci 6
Programming Design and Analysis

February 11, 2010

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Announcements

- Next time review for Test
- Assignment 4 due next time
Constants

• Constants in a class

private static final RADIUS = 30.0;

– Private – only accessible in the class
– Static – belongs to the class
– Final – cannot change its value
Math Functions

- Math.floor(4.2) is
- Math.ceil(4.2) is
- Math.max(5.3, 6.2) is
- Math.min(3, 8) is
Classwork Today - Animation

- Canvas

(0,0)
Canvas Details

• What are the dimensions of the Canvas?
  – java.awt.Dimension

• Creating the Canvas

```java
final java.awt.Dimension SIZE = 
    new java.awt.Dimension(600, 600);
Canvas display = new Canvas(SIZE);
```

• Accessing the dimensions

```java
int height = SIZE.height;
int width = SIZE.width;
```
Paint a circle

- Center of the screen
  - Point \((x, y)\)
  - `java.awt.point`
  
  ```java
  Point center =
  new Point(?, ?);
  ```

- Pen
  - Set the color
    ```java
    Java.awt.Color.RED
    ```
  - Fill the oval
Paint a Circle (cont)

• Canvas has a special method
  – paintComponent
  – (must spell it exactly this way)
  – This method is automatically invoked when an event occurs
    • When main sets isVisible to true
    • When a window is resized
Classwork today

• Modify the Canvas class to get the circle to move
• Modify the Canvas class to get the circle to bounce inside the canvas
• Add a new class Bouncer to create a circle that bounces
• Create two bouncing circles