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

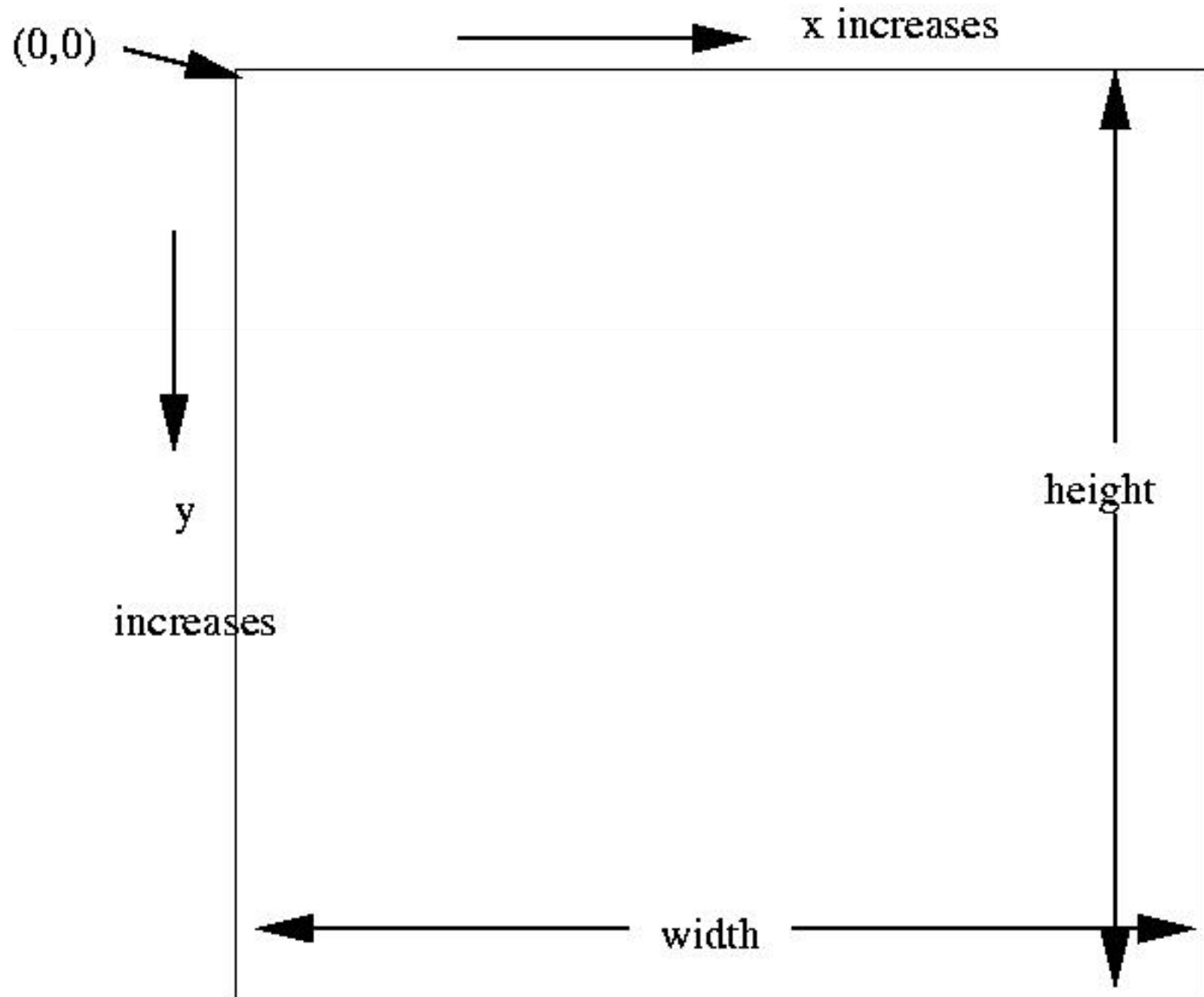- Constants in a class

```
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)   x increases

y

increases

height

width

Canvas Details

- What are the dimensions of the Canvas?
  - java.awt.Dimension
- Creating the Canvas

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

- Accessing the dimensions

```
int height = SIZE.height;
int width = SIZE.width;
```

Paint a circle

- Center of the screen
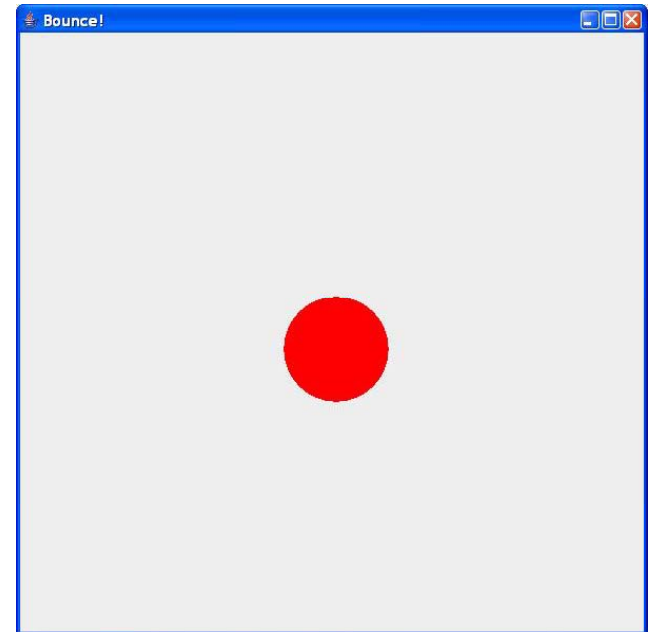 - Point (x, y)
  - java.awt.point

  Point center =

    new Point(?, ?);

- Pen
  - Set the color

  `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