COMP 110-003
Introduction to Programming
Lab 3

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THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL
Lab 3 and Program 2

• Lab 3 is due Sunday, Feb. 10
  – Read the code template (Smiley.java) carefully

• Program 2 is due Sunday, Feb. 17
  – You have to create all the code by yourself
  – Don’t forget the comments
  – Most of the skills you need are practiced in Lab 2 and Lab 3
Constant Variables

- **final** means the value of PI is not allowed to be changed

- **static** means ... we will introduce this keyword in the future
  - It means the variable belongs to the class instead of objects
Attributes and Methods in a Class

- Attributes saves data for an object
  - Variables in a method are only accessible in this method
  - Variables in a method are not attributes

- Methods changes the attributes
  - Not all classes start at `main()`
  - For class Smiley, it starts with `init()`, and then runs `paint()`

```
public class NamedConstant{
    public int var; // An attribute of NamedConstant
    public void methodA(){ // A method. It can change var.
    }
    public void methodB(){ // Another method. It can also change var.
    }
}
```
In Lab 3, most of your code will go into `init()` method.

However, you have to change the color of the eyes in `paint()` method:

- The reason is that painting is a continuous procedure, and you have to change the color of the brush in the middle of the procedure.

- For those who feel separate blocks of code ugly, you can declare a `Color` type attribute in the class, and change its value in `init()` method.