CS 635 Advanced Object-Oriented Programming
Spring Semester, 2007
Doc 1 Introduction
Jan 18, 2007

References

Object-Oriented Design Heuristics, Riel, Addison Wesley, 1996

Course Web Site

http://www.eli.sdsu.edu/index.html

on-line courses

CS 635 Spring 07

Lecture Notes

Lecture Notes with Ink

Assignments

Wiki

Mailing List

Syllabus

Reading Assignments

What this course is about

Writing quality OO code
Design Patterns
Coupling & Cohesion

Unit Testing
Refactoring

Scale Changes Everything

Review

Define

Object

Class

What are the Benefits of OO

Issues?

```
public class A {
	public int x;
	public int y;
	public int z;
}
```

Issues?

```
class Stack
  def initialize
    @elements = Array.new
  end

  def empty?
    return @elements.empty?
  end

  def push(element)
    @elements.push(element)
  end

  def pop
    @elements.pop
    return elements
  end
end
```

A verses B

```
public class A {
    public int x;
    public int y;
    public int z;
}
```

```
public class B {
    private int x;
    private int y;
    private int z;

    public int getX() { return x;}
    public int getY() { return y;}
    public int getZ() { return z;}
    public void setX(int value) {x = value;}
    public void setY(int value) {y = value;}
    public void setZ(int value) {z = value;}
}
```

Heuristics

Keep related data and behavior in one place

A class should capture one and only one key abstraction

Heuristics

Beware of classes that have many accessor methods defined in their public interface

Do not create god classes/objects in your system

Beware of classes that have too much noncommunicating behavior