Esc101
Fundamentals of Computing
Spring 2005

Lecture 02
31 Dec 2004, Friday

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http://www.iitk.ac.in/esc101/

Announcements

- Course web-page is up
- Laptop/projector is working (if you can see this)
- Library should have the course text in reserve by now (if not, then email me)
- Labs/Tutorials starting next week
- **Contributing to Tsunami Relief:**
  - http://www.cse.iitk.ac.in/~bhaskar/tsunami-relief/

Summary from Previous Lecture

- Basic terms: computing, computer, processor, memory, hard disk, input/output
- More terms: algorithm, program, programming language
- Object oriented programming: objects, classes, properties
  - Objects are “instances” of a class

Counter: An Example

- Modeling “Counter” as an object
- Can:
  - Add a given value
  - Increment (add one)
- Notion of “object variable”
  - Nothing but a memory location

More Examples of Objects

- BlueJ examples: circles, squares, triangles
- Notion of "object methods"
  - Ask an object to do something
  - Or ask an object something
- So an object has:
  - Properties (variables)
  - Behaviour (methods)

What is BlueJ?

- An “environment” which allows you to:
  - Create Java classes
  - Create Java objects
    - With whatever “property”, “behaviour” you want
    - That is, with whatever “variables”, “methods”
- Notion of “compilation”
  - Java to “machine language”
  - Machine (computer) understands only electrical signals
    - High/Low, 0/1

Writing the "Counter" Java Class

- Class has description of:
  - Properties (variables)
  - Behaviour (methods)
    - Methods can have "arguments"
- This is all in Java syntax:
  - Code, and comments
  - Compiler ignores comments

Summary and Next Class...

- Today:
  - Object variables and methods
  - BlueJ, compilation, machine language
  - Writing Java code and comments
- Next class:
  - Binary arithmetic
  - Variables and expressions
  - Preparation for lab