

Esc101

Fundamentals of Computing

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Lecture 02
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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