

Introduction to Java Programming

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Module aims

By the end of the course you'll be able to:

- Read and write Java programs
- Integrate functionality from 3rd party libraries with your own code
- Create simple graphical interfaces
- Use appropriate software engineering techniques and tools to make your lives easier
- Tackle your summer projects with confidence!

Who should take IJP?

If you can program

but have no experience of
object-oriented programming,

IJP is for you.

If you have never programmed before

You can take IJP, but
you will find it *very* difficult.

You may have to spend more time
programming outside of the labs.

You will probably pass but with a
low mark.

There have been exceptions!

Who should *not* take IJP?

If you have completed a Java programming course at another university

or you have used Java in industry

or you have used Java for a large university project or dissertation.

or you are competent to program in another object-oriented language e.g., C++.

then you should get an exemption from your specialism advisor.

See programming requirement in course guide:

www.inf.ed.ac.uk/teaching/years/msc/courseguide08.html

Assessment

- 2 multiple-choice tests (10% each) taken in lab sessions.
- 2 assignments (35% and 45% respectively)
 - Programming work, code to be submitted for assessment
- No exam!

The Edinburgh Marking Scale

Score	Grade	Interpretation
≥ 70	A	Excellent
60 -69	B	Very good
50 -59	C	Good
40 -49	D	Satisfactory for Diploma, but inadequate for MSc
< 40	E	Unsatisfactory

Course activities

- No Lectures!
- Instead, study the course textbook and *screencasts* provided by the university in your own time.
- Attend two labs per week, each two hours long, to work on programming exercises from the course textbook.

Lab Times

- Group one: Monday 10-12 and Tuesday 4-6.
- Group two: Tuesday 9-11 and Friday 4-6.
- Group three: Monday 4-6 and Friday 9-11.

Appleton Tower, 5.08 (Computer Lab South).

Help

- **Classmates**
- **Demonstrators**
- **Office hours:** Wednesdays 10-12, Appleton Tower 8.15.
- **Course website:**
<http://www.inf.ed.ac.uk/teaching/courses/ijp>
- **Email list**
- **InfBase:** Appleton Tower 5.07, at scheduled times.

Course Text



Objects First with Java

A Practical Introduction Using BlueJ

Third Edition

PEARSON
Prentice
Hall



David J. Barnes
Michael Kölling

**Objects First with Java:
A Practical Introduction
using BlueJ.**

David J. Barnes & Michael
Kölling

Fourth edition.

You have to buy a copy.

**Bring your textbook to the
labs!**

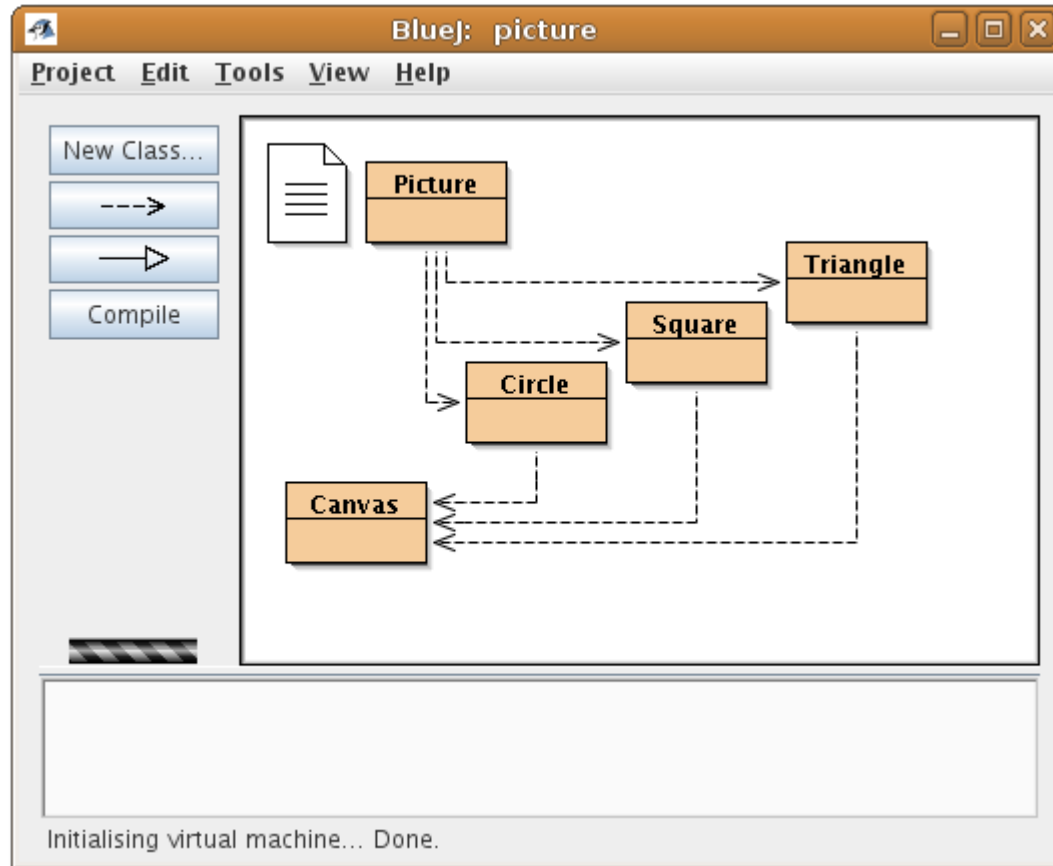
Why learn Java?

- Simple - designed from the beginning to be object-oriented
- Cross platform (write once, run anywhere)
- Commonly used
- Wide range of supporting libraries

Please read **The Java Technology Phenomenon** :
<http://java.sun.com/docs/books/tutorial/getStarted/intro/index.html>



BlueJ



<http://www.bluej.org>

Teaching approach

- Objects first: learn underlying concepts early to avoid getting bogged down in syntax.
- Learn by: executing, reading, modifying and extending example programs.
- No tediously simple “hello world” programs.

Course overview (1)

- Objects and classes
- Understanding class definitions
- Object interaction
- Grouping objects
- More sophisticated behavior - libraries
- Well-behaved objects - testing, maintaining, debugging
- Designing classes

Course overview (2)

- Inheritance
- Polymorphism
- Extendable, flexible class structures
- Building graphical user interfaces
- Handling errors
- Designing applications

Demo...

Homework

- Install BlueJ.
- Then download the example programs from the BlueJ book.
- Then take the BlueJ tutorial:

<http://www.bluej.org/doc/documentation.html>

Chapters 3 and 4 (later chapters are more advanced).