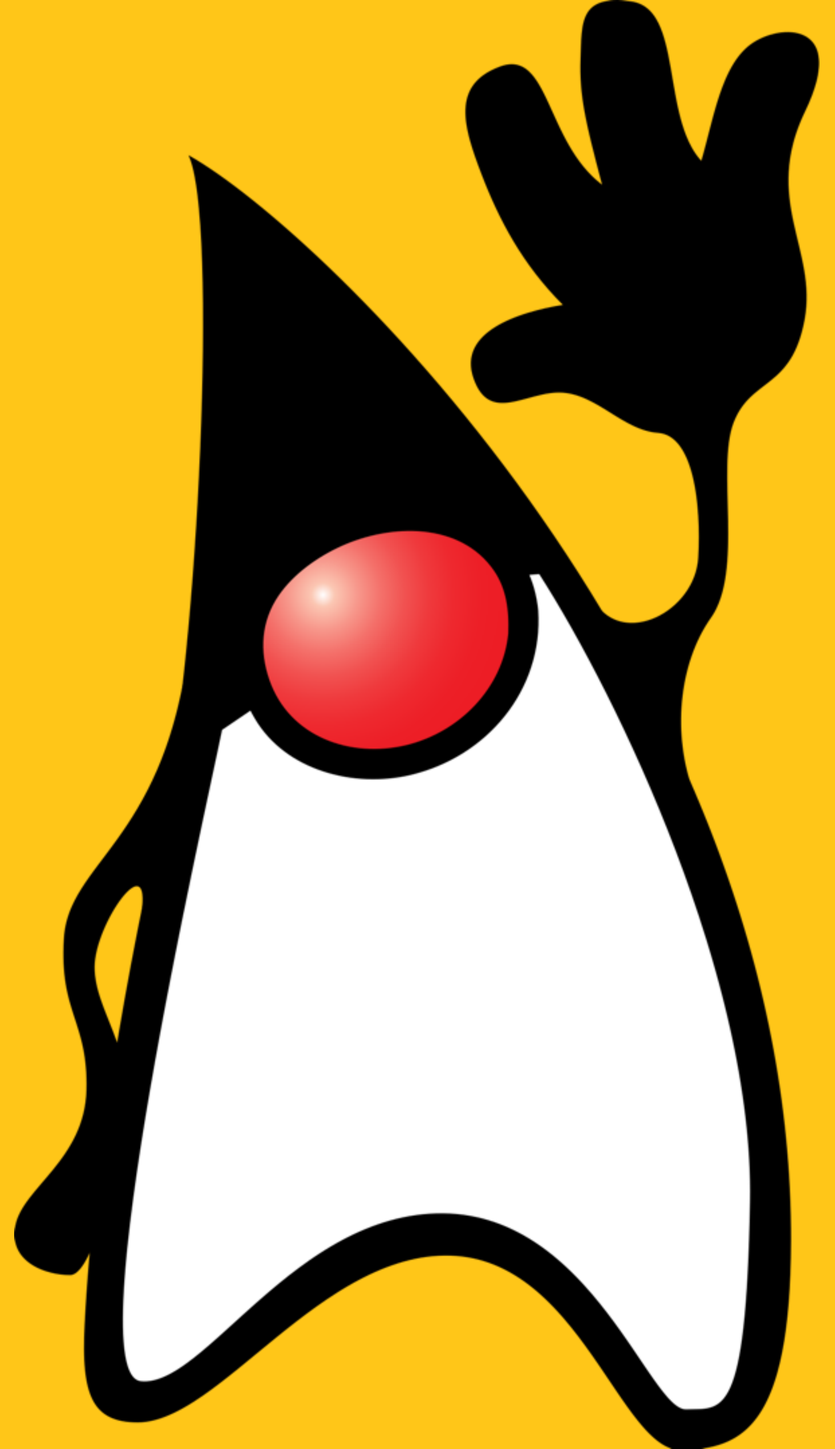
DR EDWARD ANSTEAD

JAVA FOR INDUSTRY

Course Overview



THIS WEEK...

- Course overview
- Java Introduction
- Installing IntelliJ
- Your Fist Java Program

THIS WEEK...

- Course overview
  - Weekly sessions
  - Assessment
  - information and support
- Java Introduction
- Installing IntelliJ
- Your First Java Program

AT THE END OF THE COURSE YOU WILL BE ABLE TO...

- Understand object oriented programming (OOP) and its importance.
- Code in Java using OOP methods.
- Analyse a programming problem.
- outline the requirements of the problem.
- Design solutions using OOP.

JAVA FOR INDUSTRY SYLLABUS

Week	Topic
1	Introduction
2	1. Variables and types
3	2. Control flow
4	3. Object Orientation
5	4. Methods
	READING WEEK
6	5. Importing Libraries and the Scanner Class
7	6. Exceptions
8	7. Inheritance
9	8. Abstract Classes
10	9. Interfaces

EXTENDED JAVA TOPICS (SEMESTER 2):

- Data structures (Lists, hashes, maps)
- Event programming and GUIs
- Generics
- Functional programming (Lambdas)
- Concurrent programming
- Building and packaging
- Enums

TEACHING OUTLINE

- **Video lectures** - Available each Tuesday to be watched by lab the next week. Approx 40-70 mins a week
- **Labs (2 hours)**
  - Tuesday 11:00 RHB 306
  - Friday 12:00 St James Block 3 lab
- **Extended office hours**
  - Tuesday 16:15 - 17:00
  - Other times too follow (watch the VLE.)

PRINCIPLES AND APPLICATIONS OF PROGRAMMING

- Is the old name for this course and Extended Java
- Some of you still registered on that module code
- college working to move you over to the new code
  - You don’t need to do anything right now
- I’m assuming you will all want to take the new version
  - No exam!

ASSESSMENT SCHEDULE

- 4 lab assignment worksheets (30%)
- 2 larger term assignment (40%)
- Quizzes (30%)
  - 7 interactive quizzes (Wooclaps)
  - 2 in class tests (Learn.gold quizzes)

ASSIGNMENTS SCHEDULE

Week set	Assignment	Topics	Hours guidance	Set	Due	Marking complete
2	Lab assignment 1	1 and 2	6	11th October	25th October	15th November
3	Lab assignment 2	3 and 4	6	25th October	5th November	26th November
5	Mid term assignment	1 to 5	15	1st November	22nd November	23rd December
6	Lab assignment 3	6 and 7	6	22nd November	6th December	23rd December
7	Lab assignment 4	8 and 9	6	6th December	17th December	17th January
8	Final Assignment	1 to 10	25	13th December	January 17th	25th February

QUIZZES

- Class tests
  - On learn.gold
  - 45 minutes
  - To be completed in the lab, in exam like conditions
  - Alternative quizzes available for extenuating circumstances
- Interactive quizzes
  - On Wooclap, done during the lab most weeks
  - Alternative submission for those who can’t do in class quizzes or if you are sick

Quiz Schedule

Week	Type	Topics
2	Interactive Quiz 1	1
3	Interactive Quiz 2	2
4	Quiz 3	3
5	mid-term test	1 to 4
6	Interactive Quiz 4	5
7	Interactive Quiz 5	6
8	Interactive Quiz 6	7
9	Interactive Quiz 7	8
10	end of term test	Everything !

GETTING HELP - WITH THE WORK

- Classmates
- Learn.gold forum
- Asking questions in the lab
- Office hours
  - Extended Office hours

GETTING HELP - WITH THE WORK

- Classmates
- Learn.gold forum
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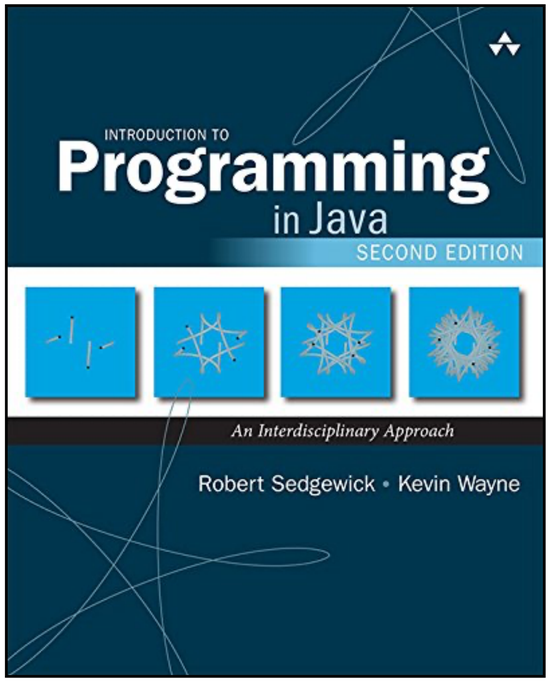
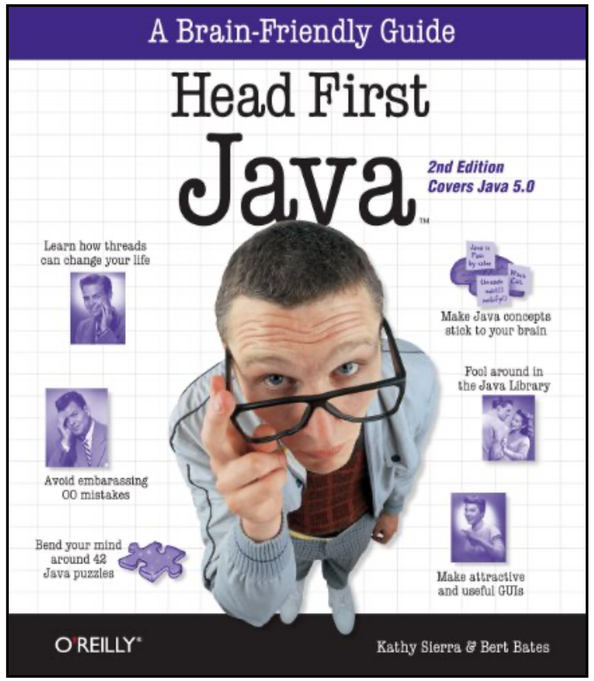
- ~~Teams~~
- ~~Email me~~
- ~~Queuing up at the end of the lab~~
- ~~Learn.gold messages~~

GETTING HELP - OTHER

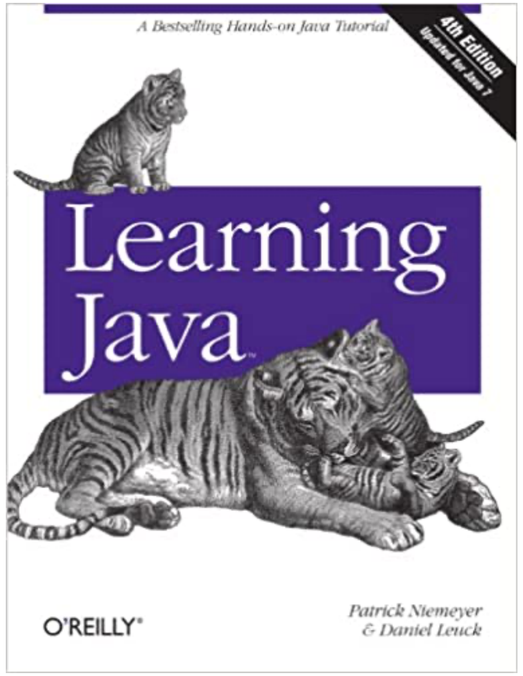
- Late Submission - myGoldsmiths
- Personal issues
  - Student Welfare
  - Email computing office
  - Email me

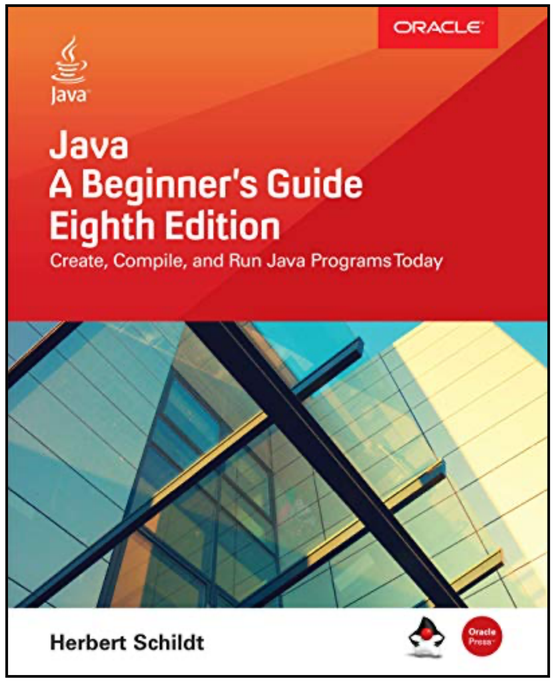
BOOKS - NO NEED TO BUY ANY!





VERY POPULAR BUT VERY OUT OF DATE

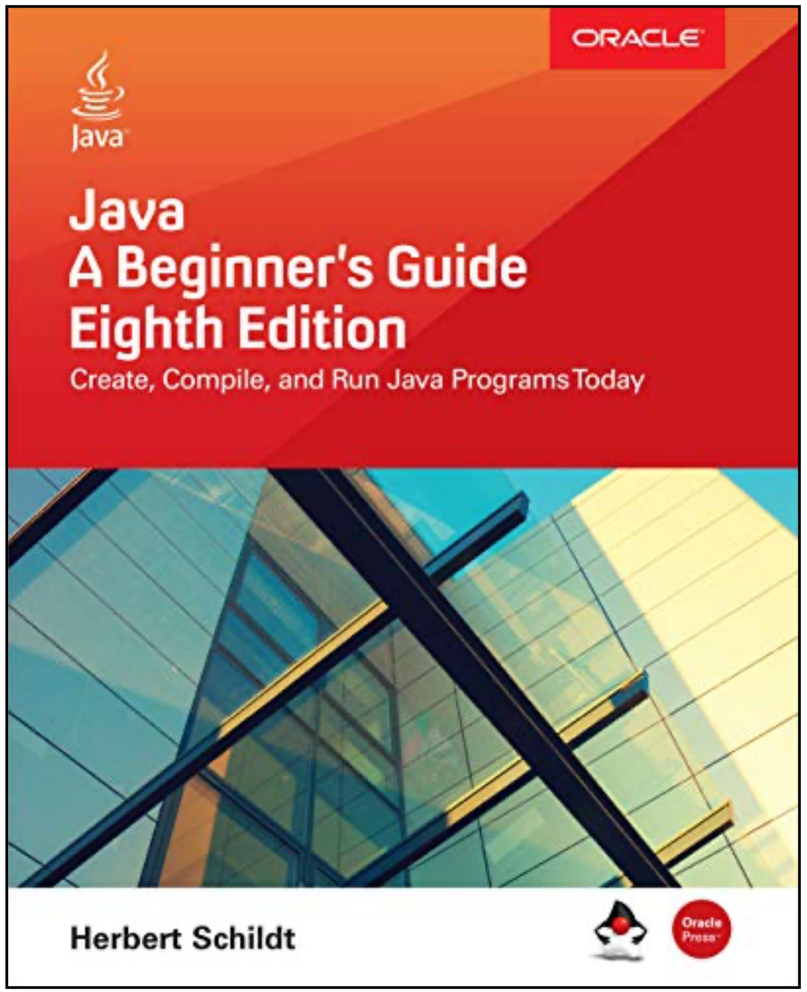


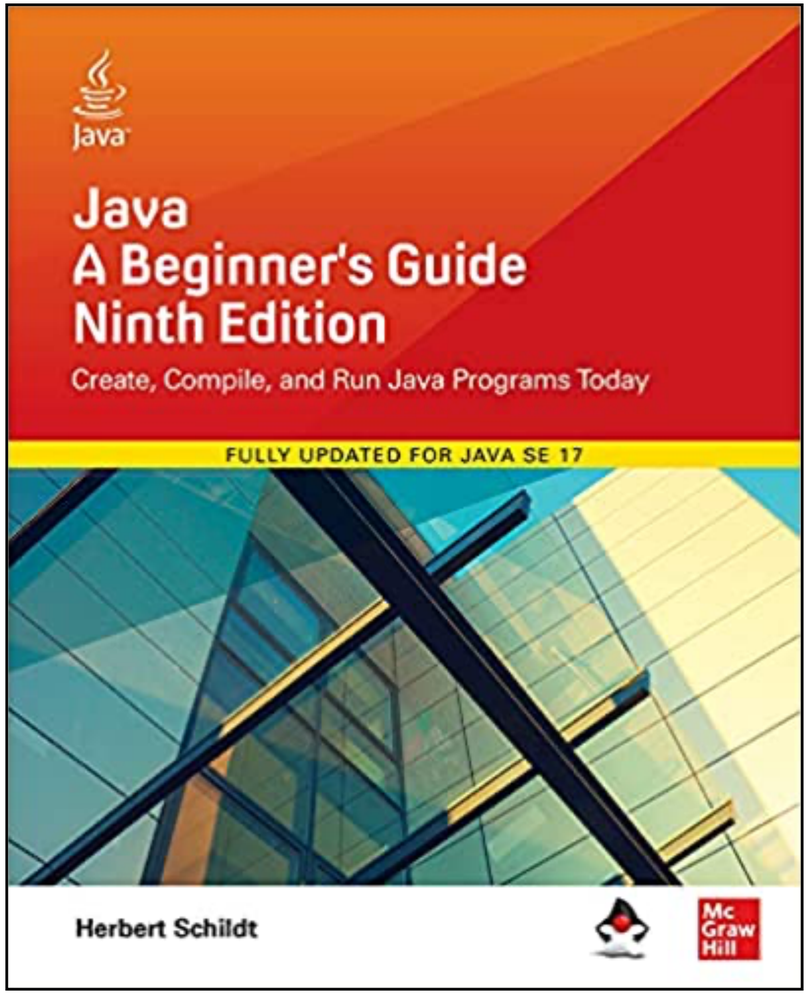


I USED THIS ONE TO HELP DEVELOP THE COURSE

There are lots of introductory Java books. Checkout the library before making any purchases!

BOOKS - NO NEED TO BUY ANY!





New edition due in January. Current edition is a bit cheaper though!

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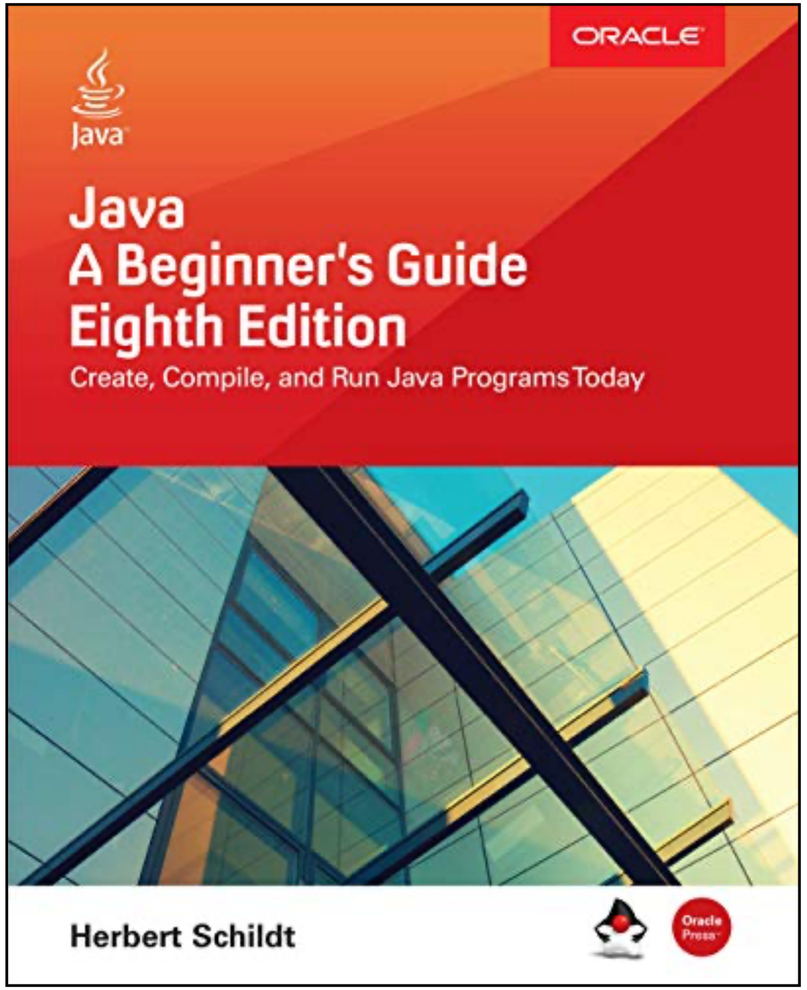
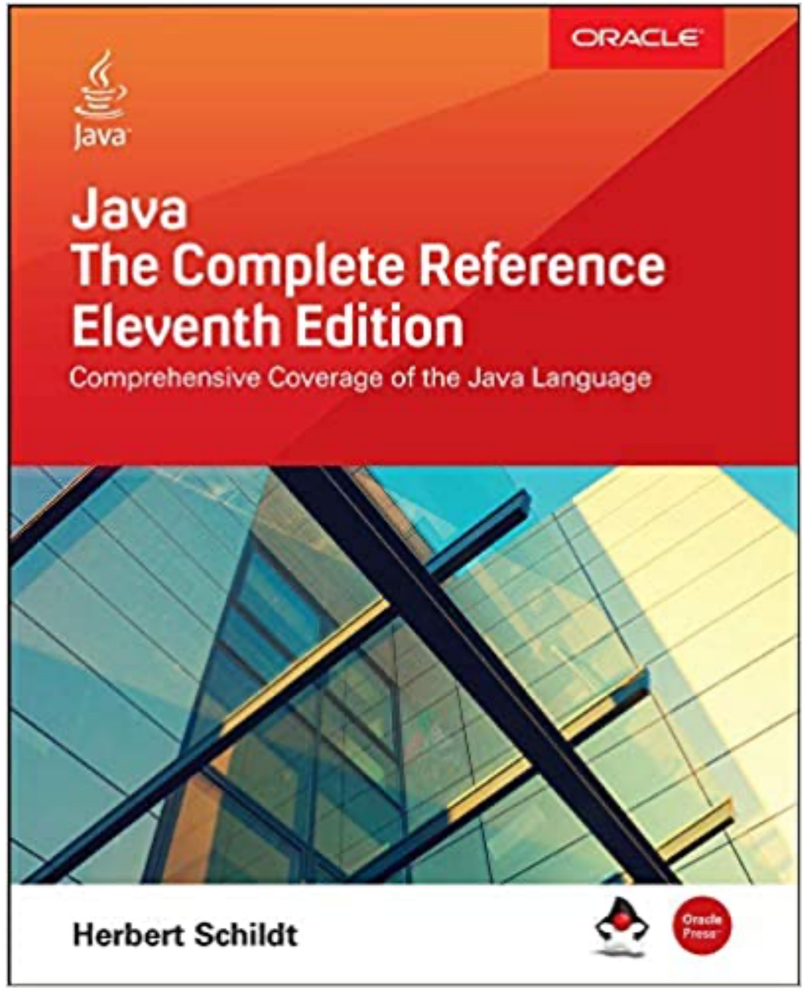




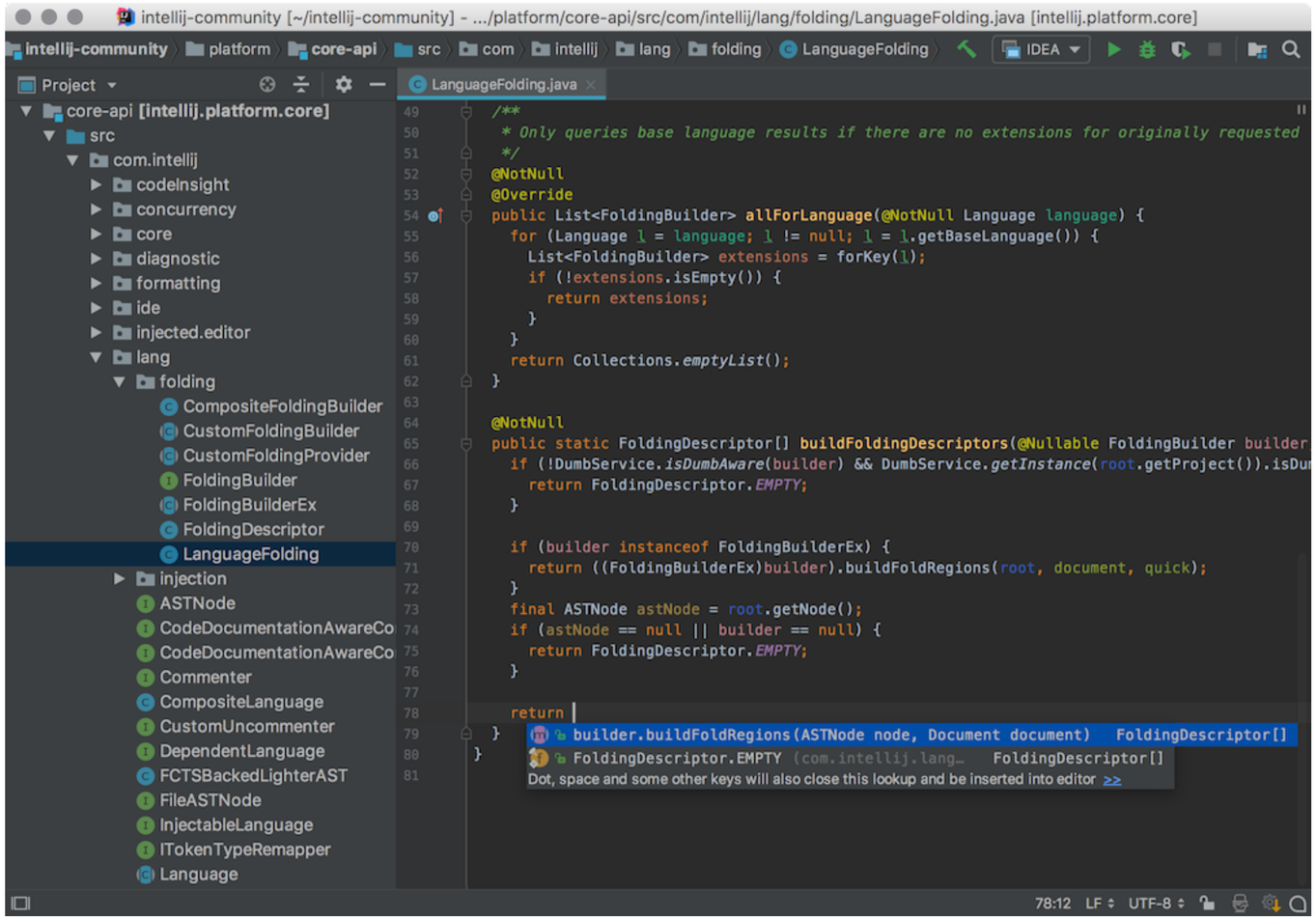
It also has a twin. Complete but complex!

WHAT IS AN IDE

- Integrated development environment
- Single software application for
  - editing,
  - compiling,
  - running,
  - debugging
  - and tuning

INTELLIJ

- https://www.jetbrains.com/idea/
- Download the community edition (for Windows, Mac (intel and apple), Linux)
- You can also get an education licence for the pro edition and a whole range fo useful tools!
- You can use alternatives if you wish but this is where I'm going to do all of my examples.



INSTALLING AND RUNNING INTELLIJ FOR THE FIRST TIME

- Download and install
- Follow the instructions on the video but...
  - Make sure you install version 17 of Java not 14 as described in the video!
- Create and run a new application.

YOUR FIRST JAVA PROGRAM

```java
package com.company;

public class HelloWorld {

    public static void main(String[] args) {

        System.out.println("Hello World");
    }
}
```