

# Useful Java Coding Tips

This document provides you with some useful tips and quick fixes to help you out while coding. It also contains some last minute reminders to guide you before submitting your project.

## 1 Common Errors

In this section we will briefly mention some of the most common mistakes that could be causing errors in your code. This section covers the whole project and more and thus not all the points mentioned here should be relevant for each milestone. For more details on the mentioned bugs and their solutions check <http://www.javacoffeebreak.com/articles/toptenerrors.html>. For more common errors and bugs go to <http://www.open.ac.uk/StudentWeb/m874/!synterr.htm>.

- Accessing non-static member variables from static methods (such as main)
- Mistyping the name of a method when overriding
- Comparison assignment (= rather than ==)
- Comparing two objects (== instead of `.equals`)
- Confusion over passing by value, and passing by reference
- Writing blank exception handlers
- Forgetting that Java is zero-indexed (arrays start with 0 not 1)
- Naming errors (changing the name of the method or variable, switching small and capital letters)
- **Null pointers** (not initializing the introduced variables)
- Spaces between method names and the opening brackets
- Wrong bracketing
- Calling methods/constructors with wrong attributes or in the wrong order
- Calling methods and variables from unsaved files

## 2 Shortcuts

There are lots of time saving shortcuts in Eclipse. Some of the most useful ones are:

- Undo: **ctrl + z**
- Redo: **ctrl + y**
- Copy: **ctrl + c**
- Cut: **ctrl + x**

- Paste: **ctrl + v**
- Save: **ctrl + s**
- Save all files: **ctrl + shift + s**
- Auto format code: **ctrl + shift + f**
- Auto-complete/code suggestions: **ctrl + space**
- Main method: type **main** then **ctrl + space**
- System.out.print: type **syso** then **ctrl + space**
- Auto-generate basic getters and setters, toString and constructors: **Source > Generate...**

You can find the complete list in <http://www.shortcutworld.com/en/win/Eclipse.html>.

### 3 Tips

- **Google is your best friend!**
- Frequently save your code
- Rerun all the tests before submitting
- Make sure you setup your project correctly from the start
- Don't forget to use the debugger to trace your code more easily
- Test and debug your code step by step to avoid cascading mistakes
- Submit your code and a snapshot from the evaluator.in submission to Google drive