

Object-Orientation and Eclipse

4-25-2012

Opening Discussion

- Minute essay comments
 - Final preparation.
 - What is the likelihood of me losing the finals grades?
 - Review sheet?
 - Is maze solving something we have on the machines?
 - Should you switch to regular classes for the text adventure?
 - Differences between functions, classes, and case classes.

More

- Class participation grade.
- The Scala API is just a bunch of classes.
- What isn't an object?
- Whose brain would I copy?
- Ethical quandary on mining an inhabited asteroid.
- Relative difficulty of the final?
- You can resubmit all assignments until 5/7.
- Milkshake flavor?
- Always focus on logic.
- Office hours during reading days and finals?

Even More

- Will the Spurs win the title this year? If so, will Duncan retire?
- IcP Solutions

Differences from Case Classes

- Arguments aren't visible by default. Put `val/var` in front to see them in outside code.
- Have to be made with `new`.
- Code in the body of the class is executed immediately at creation.
- Functions defined in the body are methods of the objects.
- Data defined in the class are members of the objects.
- You can make things private.

Making Objects

- The class is only a blueprint. To get an object we have to instantiate an instance from the class.
 - `new ClassName(arguments)`
 - This expression can be assigned to values or passed into functions. The type is the name of the class.
- Once you have an object you can access members and methods using the dot notation.

object Declarations

- You can declare singleton objects with the keyword “object”.
- An object doesn't take arguments.
- You can declare methods and members in the object.

Applications

- We have been playing with scripts. To make an application you put a main method in an object.
 - `def main(args:Array[String]) { ... }`
- Compile with `scalac` and run with `scala`. (Just give the object name, no `.scala`.)

Eclipse

- Applications typically are not written with command-line tools. Instead we use an Integrated Development Environment, IDE.
- Eclipse is such a program.
 - Free download from eclipse.org.
 - Scala plug-in from scala-ide.org.
- It is installed on these machines. Let us have you run it.

Minute Essay

- Questions?