Scala Language Part 01 Hands-On

Refer to the [lecture notes](http://goo.gl/g465Il) if you need help.

# Sets

Suppose you have

val s1 = Set(1,2)

val s2 = Set(2,3)

Explore the [scaladoc for Set](http://www.scala-lang.org/api/current/index.html#scala.collection.immutable.Set). How would you get the union of the two sets? The difference?

How would you add an item 4 to s1 to create a new set s3?

# Ranges

What’s the difference between

1 to 3

and

1 until 3

Explore the [scaladoc for Range](http://www.scala-lang.org/api/current/index.html#scala.collection.immutable.Range). Try to intersect two overlapping ranges.

# Lists

Given

val l = List(1,2,3,4)

Get the the third element using just head and tail.

Create a new list with the 5 at the head.

# Maps

Given

val m = Map("a" -> 1, "b" -> 2)

Compute the size of m.

# Functions

## Call-by-name

Scala has an if then else expression that evaluates a condition, then returns the result of evaluating a “then” clause if the condition is true or the result of evaluating an “else” clause if the condition is false. Example:

if (3>4) “yes” else “no” // evaluates to “no"

Suppose we wanted an inverse if, let’s call it ifNot, where the “then” clause is evaluated when the condition is false and the “else” clause is evaluated when the condition is true. How would you do this using call-by-name parameters?

## Anonymous Function

Define an anonymous function which takes an int and tests whether it’s even. Assign the function to a val. Test your function in the REPL.