

## HW3 Little Research Report

[repository \(https://gitlab.com/krikun/ir-gg\)](https://gitlab.com/krikun/ir-gg)

### 0 Structure

```
project/          # little research project
project/docs/     # test document set
project/src/main/scala  # research scala src

project/tasks/    # this reports from .md
```

build with sbt

```
# git clone ssh or https ..
cd project
sbt
...
> run
```

### 1 Doc set

placed in project/docs/ directory

docId	terms	tokens
docs/arrays	502	1948
docs/mutable-and-immutable-collections	362	1048
docs/collection-sets	453	1854
docs/collections-trait-traversable	434	1633
docs/collections-trait-iterable	278	713
docs/maps	447	1810
docs/scala-for-java-programmers	962	4983
docs/classes	227	430
docs/sets	453	1854

#### 1.1 Total tokens

```
tokens : 16273
terms  : 1709 (merged)
```

*tokens split by Punct and normalized to terms just by lowercase,  
quotes and apostrophe stays*

```
val raw = io.Source.fromFile(file).mkString
// tokenization
val tokens = raw.split("[\\p{Punct}\\s]+")
val words = tokens.map(word => word.toLowerCase())
val roughly = words.toSet
```

## 1.2 Stop words

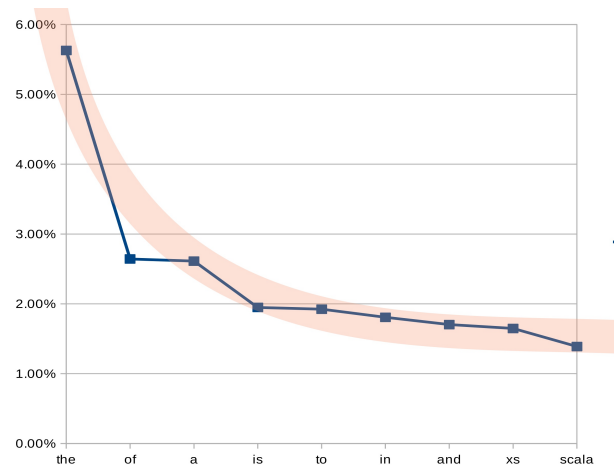
First 9 by occurrence:

<b>the</b>	<b>of</b>	<b>a</b>	<b>is</b>	<b>to</b>	<b>in</b>	<b>and</b>	<b>xs</b>	<b>scala</b>
916	430	425	317	313	294	277	268	226

Total: 3466 out of 16273 tokens

As we can see, this is logarithmic distribution.  
**xs** and **scala** appears because of test doc set:  
[src \(http://docs.scala-lang.org/tutorials/\)](http://docs.scala-lang.org/tutorials/)

or, if you wanna, by percentage to tokens:



## 2 Queries

### define

Boolean search

200th most frequent  
occurrence : 15  
5 of 9 documents

Result docId:

docs/arrays  
docs/mutable-and-immutable-collections  
docs/collections-trait-traversable  
docs/maps  
docs/scala-for-java-programmers

Edit distance, less or equal 1

Matched words:  
**define, defined, defines**

Recall increase,  
7 of 9 documents

Result docId:

docs/scala-for-java-programmers  
docs/arrays  
docs/classes  
docs/maps  
docs/collections-trait-iterable  
docs/collections-trait-traversable  
docs/mutable-and-immutable-collections

### compuet (with typo)

Boolean search

doesn't appear  
as and compute

Relevant docId:

none

Edit distance, less or equal 1

Matched words:  
**computed, computes, complex, compact**

Relevant docId:

docs/collections-trait-traversable  
docs/maps

*Recall increase,  
2 of 9 documents*