

Refactoring to Eclipse Collections

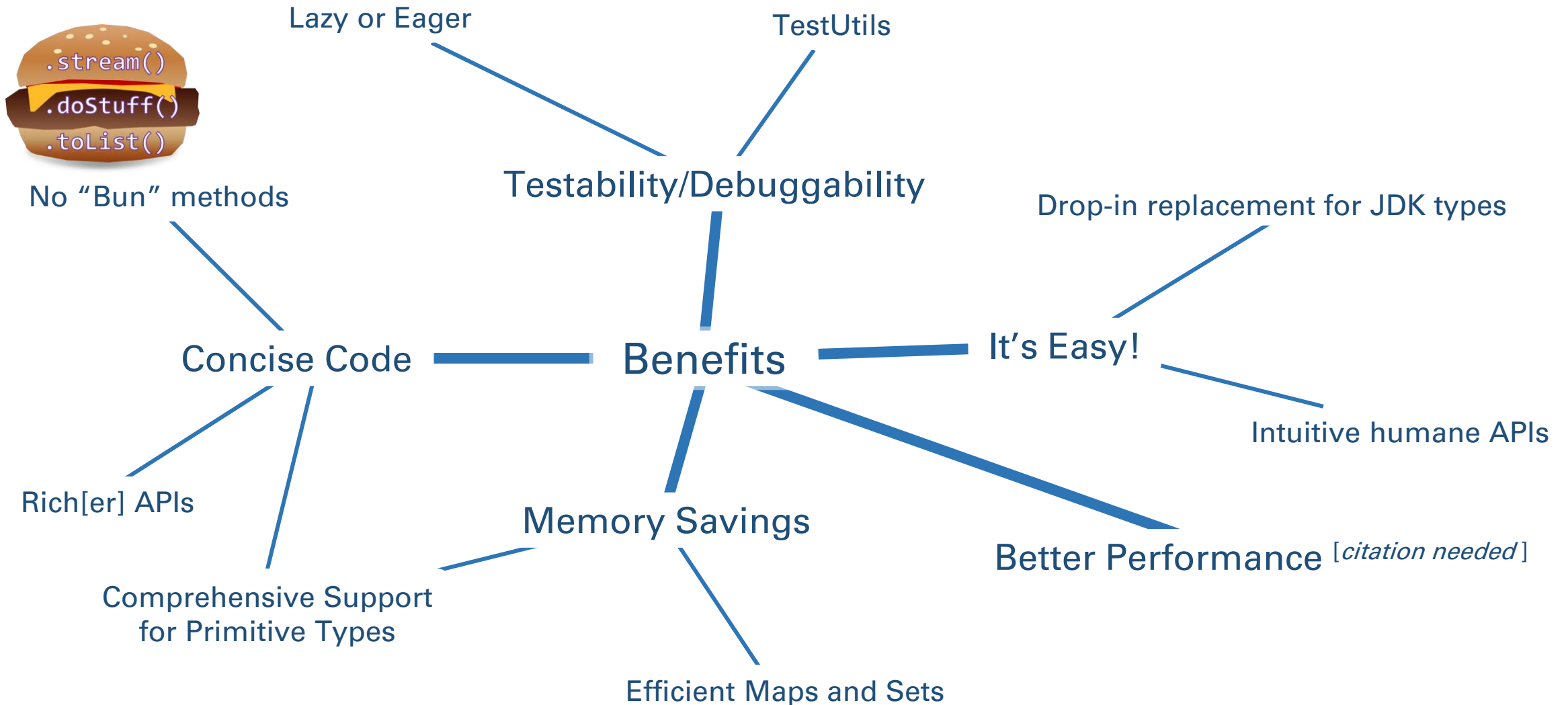
Making Your Java Streams
Leaner, Meaner, and Cleaner

Introduction

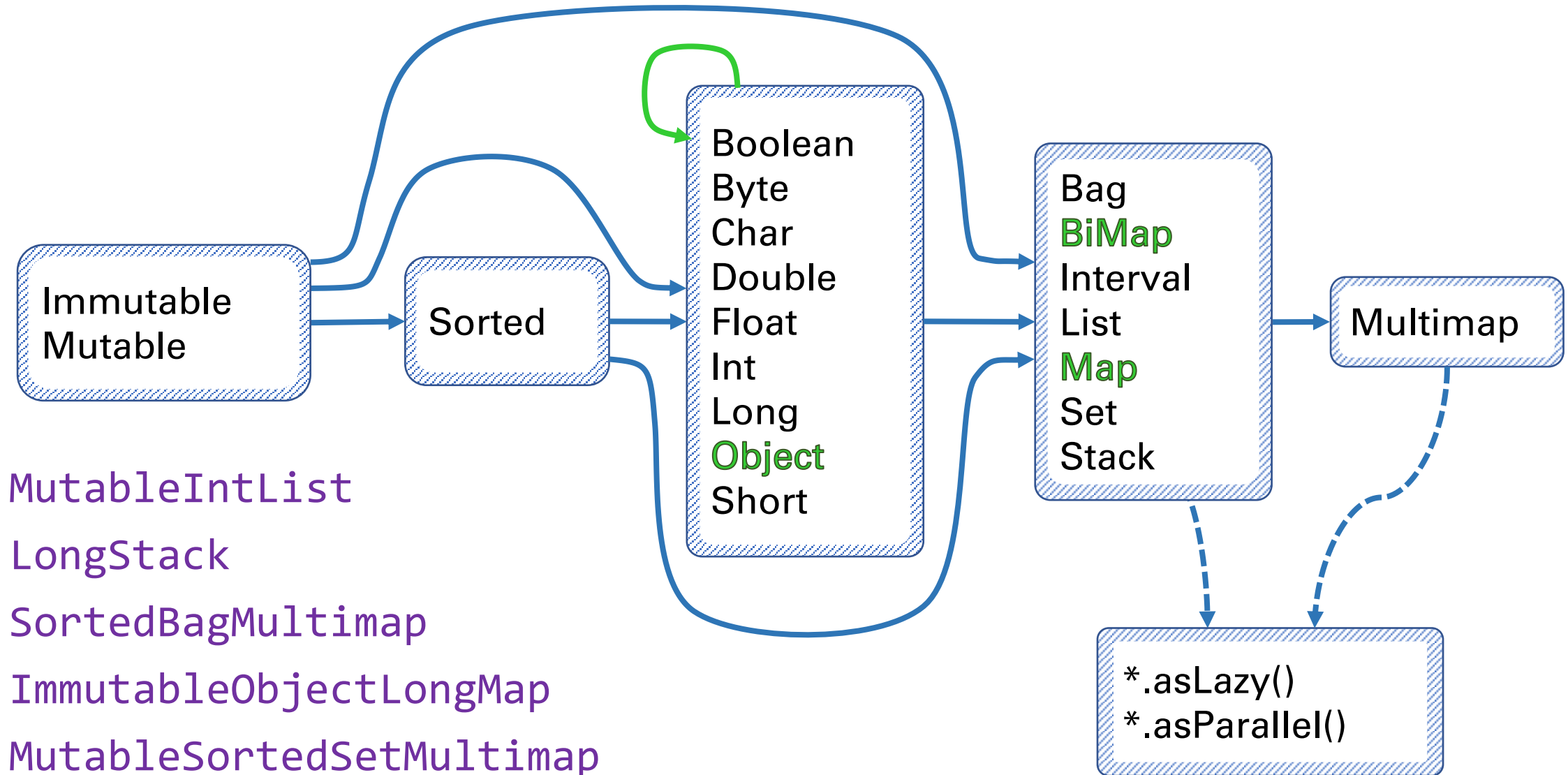
- What is Eclipse Collections?
 - Feature rich, memory efficient Java Collections framework
- History
 - Eclipse Collections started off as an internal collections framework named Caramel at Goldman Sachs in 2004
 - In 2012, it was open sourced to GitHub as a project called [GS Collections](#)
 - GS Collections was migrated to the Eclipse Foundation, re-branded as [Eclipse Collections](#) in 2015
- Learn Eclipse Collections with [Kata](#)
- Eclipse Collections is [open for contributions!](#)



Why Refactor to EC?



Any Types You Need



Instantiate Them Using Factories

Primitive Type	Container Type	Mutability	Multimap	Initialized	Lazy
Boolean	Bags	.mutable	.bag	.empty() .of() .with()	.asLazy()
Byte	BiMaps	.immutable	.list	.of(one) .with(one)	
Char	Lists	.fixedSize	.set	...	
Double	Maps		.sortedSet	.of(one,...,ten)	
Float	Multimaps			.with(one,...,ten)	
Int	Sets			.of(... elements)	
Long	SortedBags			.with(... elements)	
Object	SortedMaps			.ofAll(Iterable)	
Short	SortedSets			.withAll(Iterable)	
	Stacks				

ImmutableLongStack



LongStacks.*immutable*.with(1, 2, 3).asLazy()

LazyLongIterable

Methods by Category - Highlights

transform

collect[With]
collect[Boolean,Byte,Char,Double,Float,Int,Long,Short]
collectIf
collectKeysAndValues
collectValues
collectWithIndex
collectWithOccurrences
flatCollect

group

groupBy
groupByEach
groupByUniqueKey
sumBy[Double,Float,Int,Long]
sumOf[Double,Float,Int,Long]
aggregateBy
aggregateInPlaceBy

wrap

asLazy
asParallel
asReversed
asSynchronized
asUnmodifiable

find

detect[With]
detect[With]IfNone
detect[With]Optional
max[By]
min[By]

convert

toArray
toBag
toImmutable
toList
toMap
toReversed
toSet
toSortedBag[By]
toSortedList[By]
toSortedMap
toSortedSet
toSortedSet[By]
toStack
toString

filter

select[With]
selectByOccurrences
selectInstancesOf
reject[With]
partition[With]
partitionWhile

test

allSatisfy[With]
anySatisfy[With]
noneSatisfy[With]
notEmpty
isEmpty

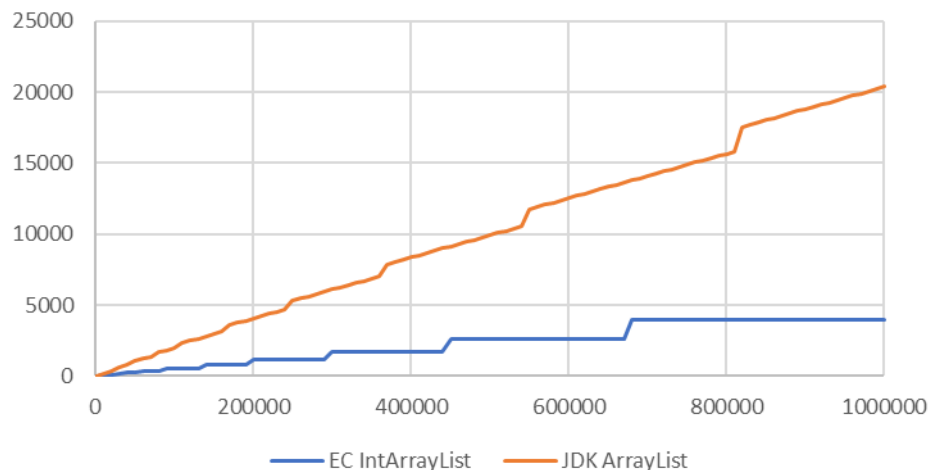
Methods – Lots More...



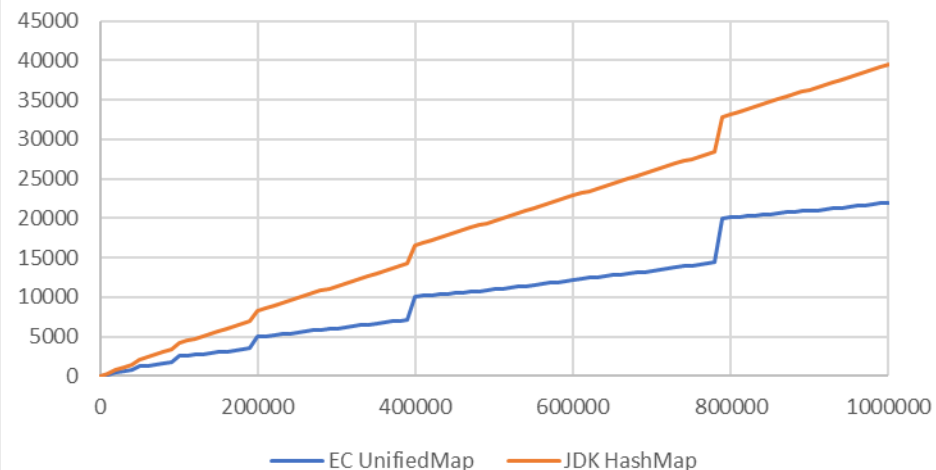
Let's Do It!

Memory Usage (Overhead in KB, Count)

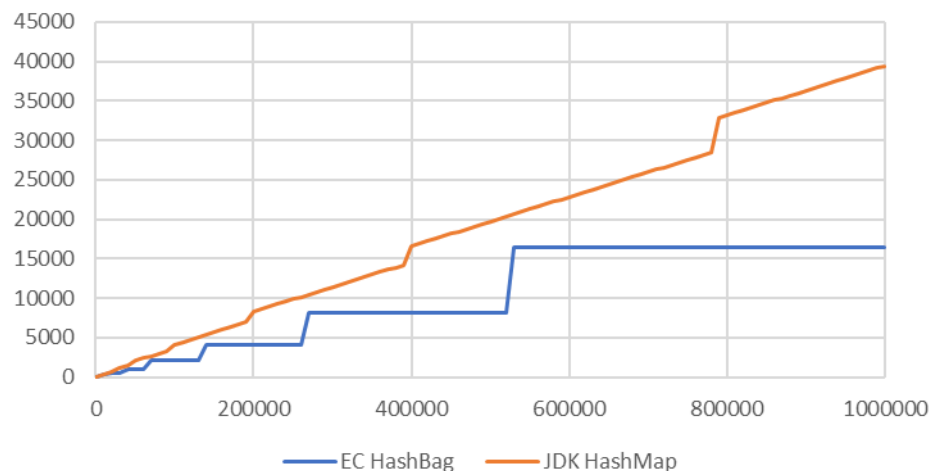
List of ints vs. List<Integer>



Map<String, String>



Bag<Strings> vs. Map<String, Integer>



Sets<String>

