

Visualizing the WordSearcher

`.findWords()` Method

Douglas C. Schmidt

d.schmidt@vanderbilt.edu

www.dre.vanderbilt.edu/~schmidt

Professor of Computer Science

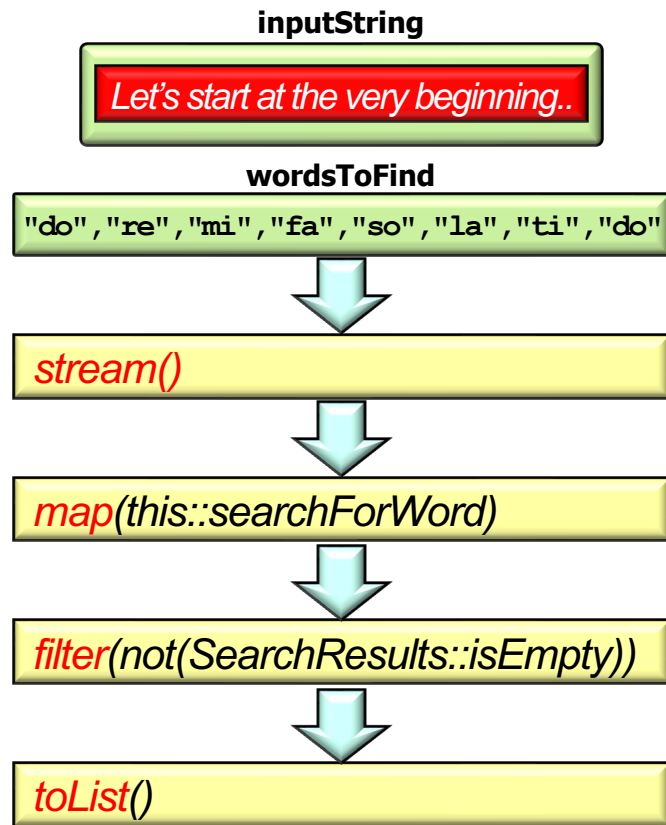
**Institute for Software
Integrated Systems**

**Vanderbilt University
Nashville, Tennessee, USA**



Learning Objectives in this Part of the Lesson

- Recognize the structure & functionality of the SimpleSearchStream example
- Visualize aggregate operations in SimpleSearchStream's WordSearcher.findWords() method

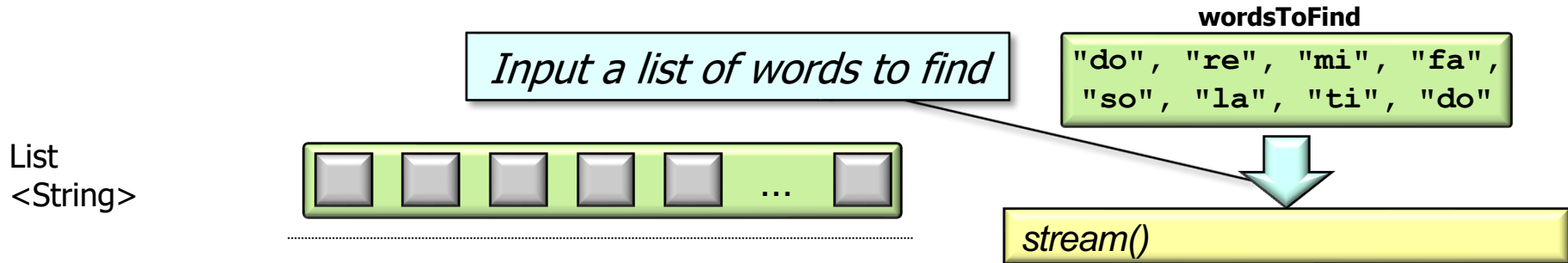


See github.com/douglasraigschmidt/LiveLessons/tree/master/SimpleSearchStream

Visualizing the Word Searcher.findWords() Method

Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string



See [SimpleSearchStream/src/main/java/search/WordSearcher.java](#)

Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string

List
<String>



wordsToFind

```
"do", "re", "mi", "fa",  
"so", "la", "ti", "do"
```

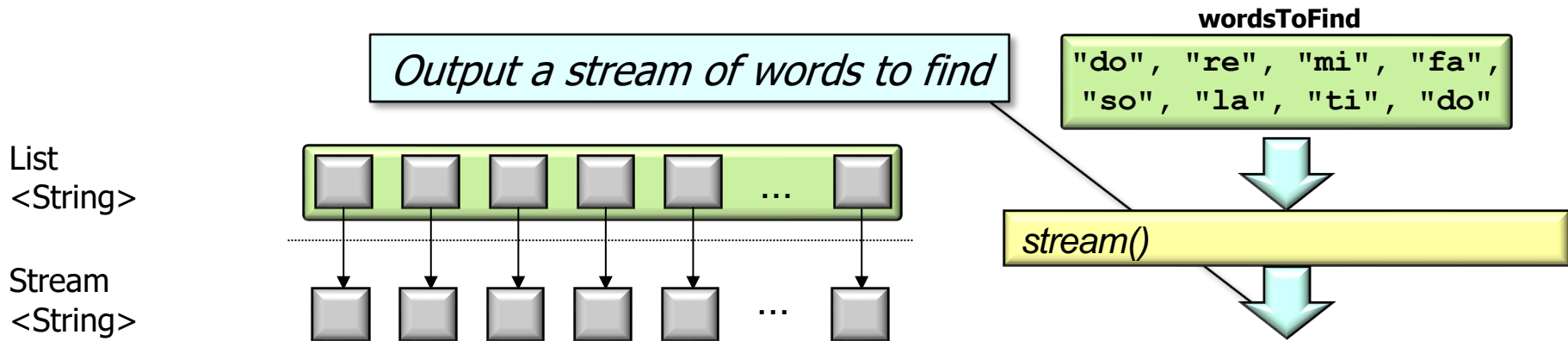


stream()

Convert collection to a (sequential) stream

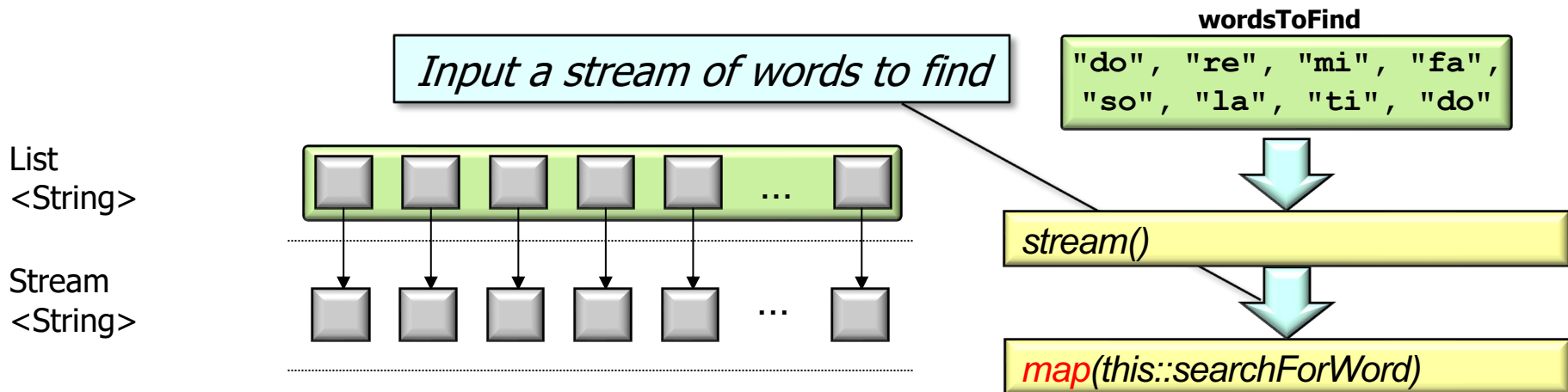
Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string



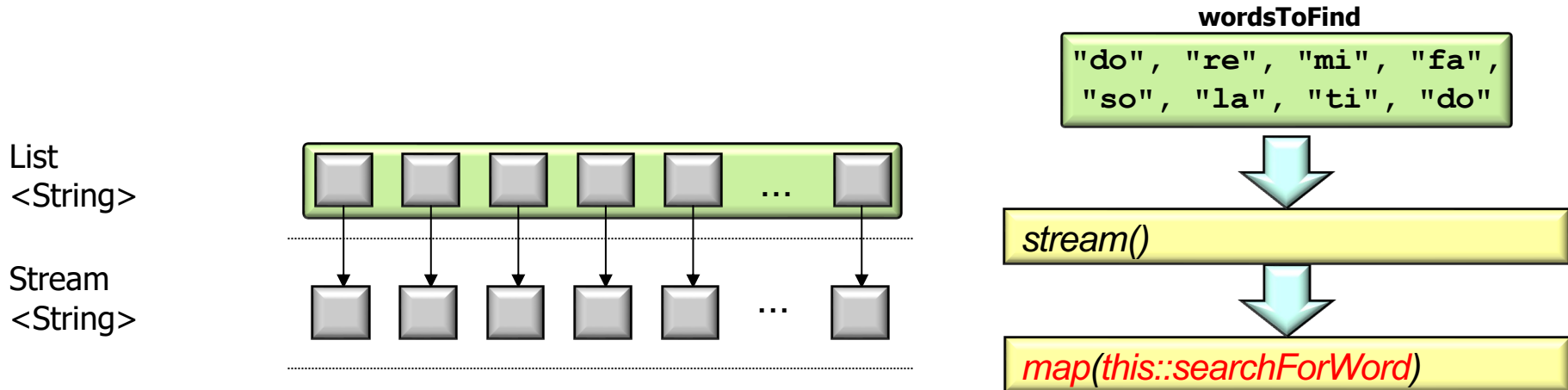
Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string



Visualizing the WordSearcher.findWords() Method

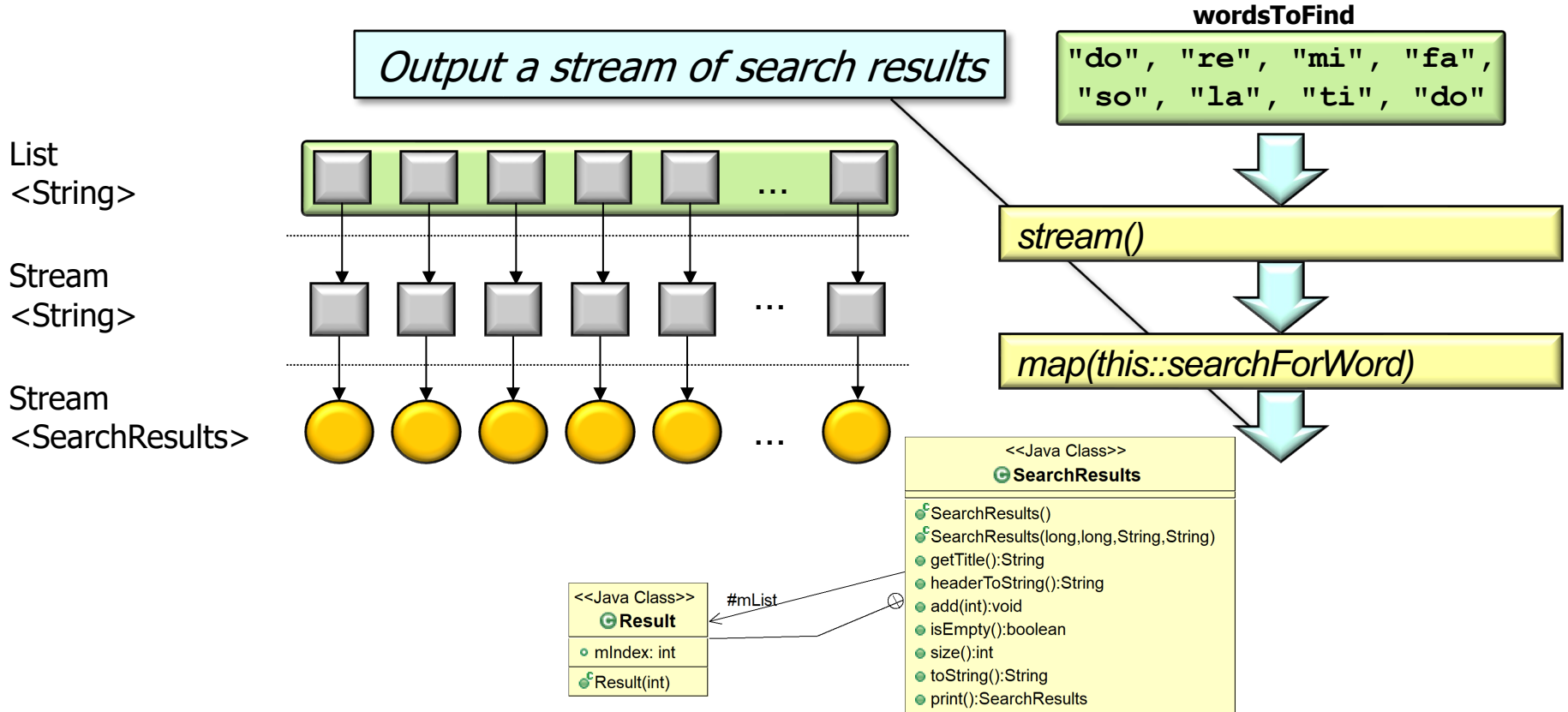
- WordSearcher.findWords() searches for words in an input string



Search for the word in the input string

Visualizing the WordSearcher.findWords() Method

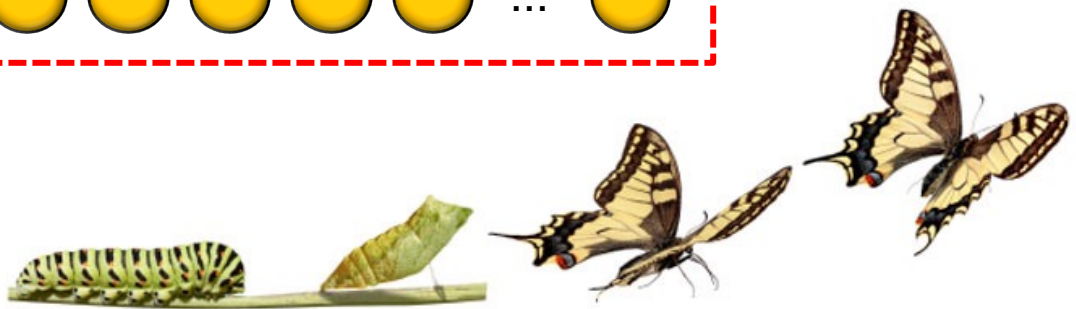
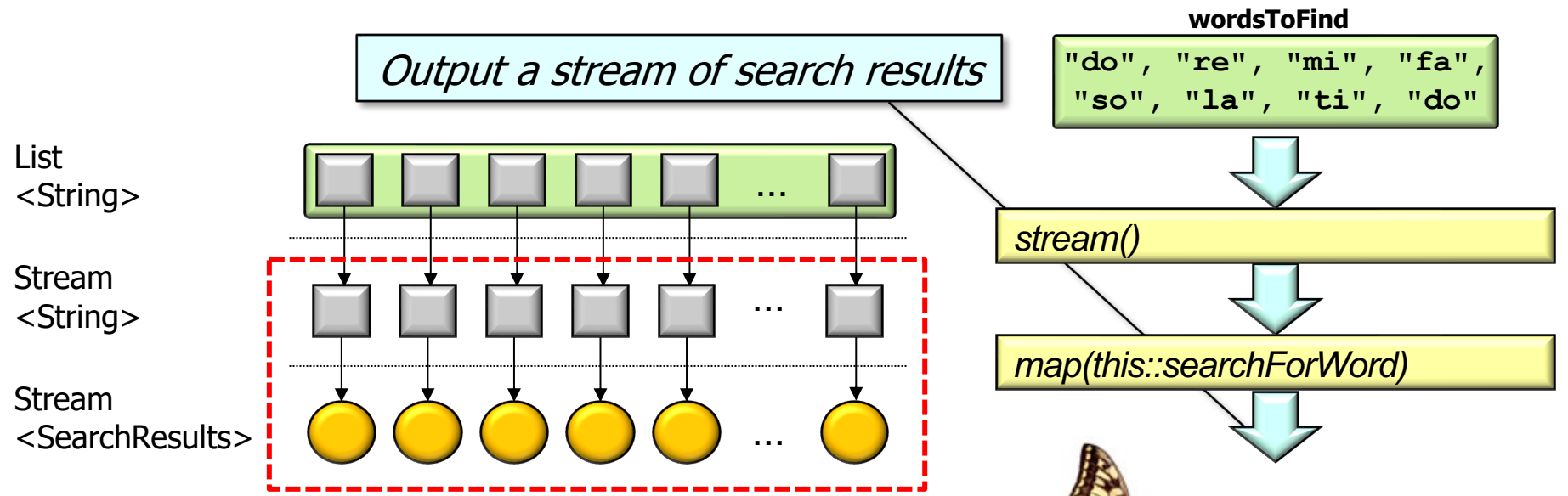
- WordSearcher.findWords() searches for words in an input string



SearchResults stores # of times a word appeared in the input string

Visualizing the WordSearcher.findWords() Method

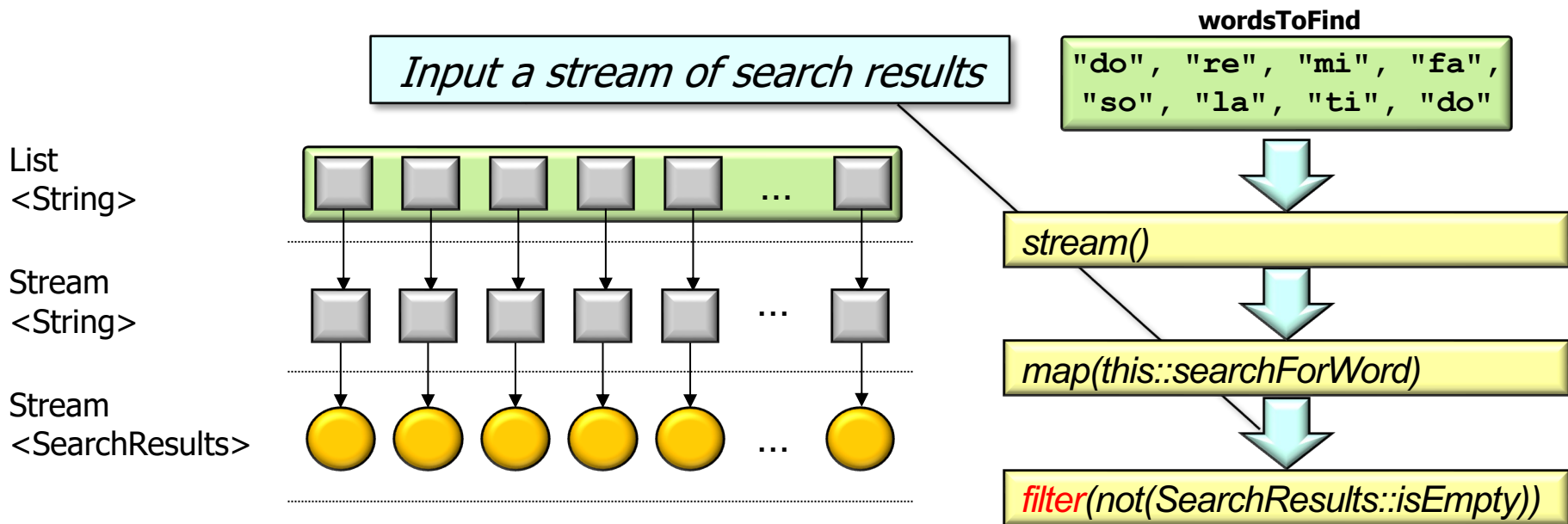
- WordSearcher.findWords() searches for words in an input string



Note the transformation of types at this point in the stream!

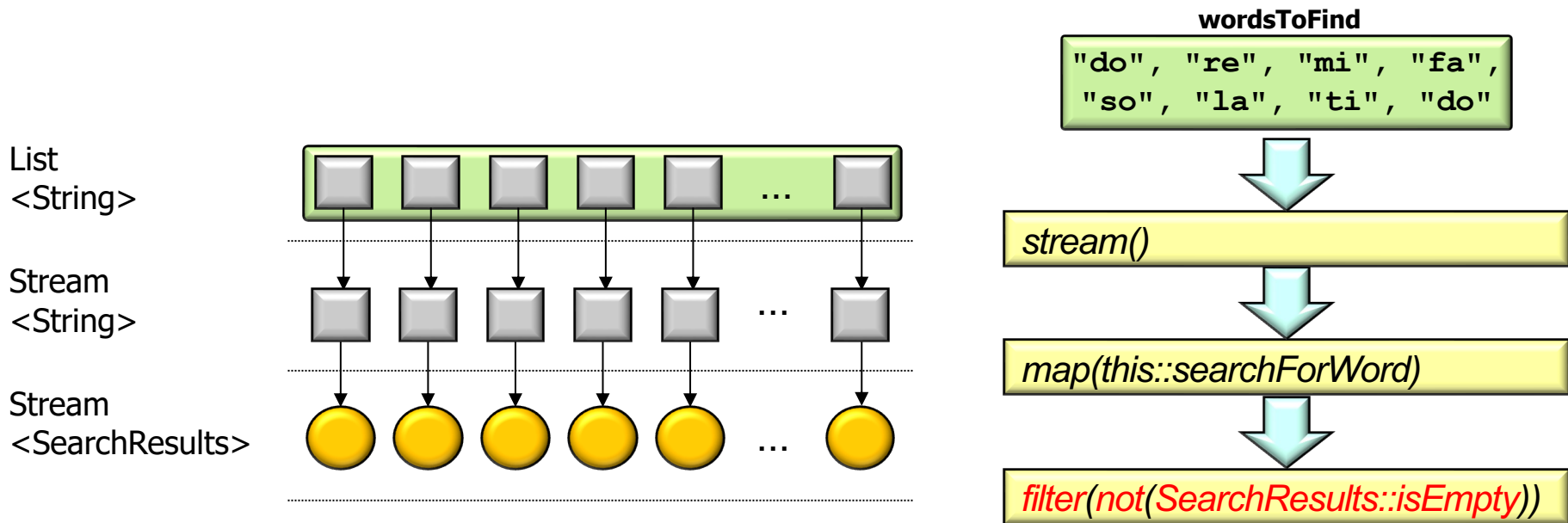
Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string



Visualizing the WordSearcher.findWords() Method

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Remove empty search results from the stream

Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string

Output a stream of non-empty search results

List
<String>



Stream
<String>



Stream
<SearchResults>



Stream
<SearchResults>



wordsToFind

"do", "re", "mi", "fa",
"so", "la", "ti", "do"

stream()

map(this::searchForWord)

filter(not(SearchResults::isEmpty))

Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string

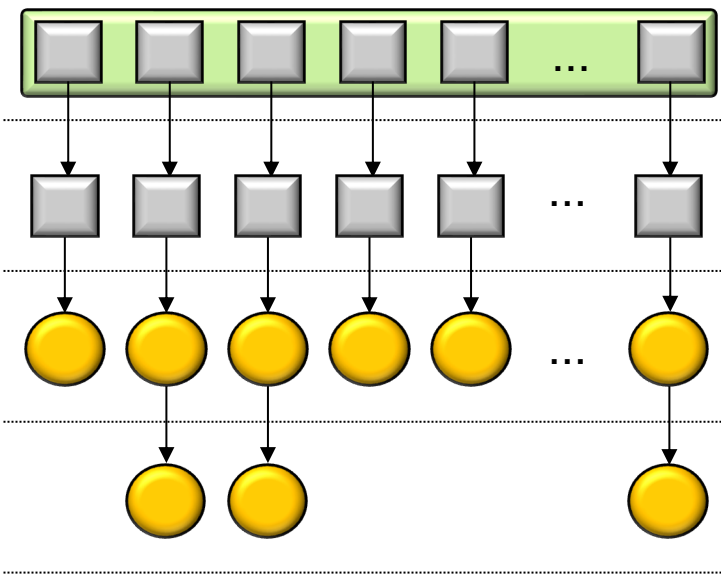
Input a stream of non-empty search results

List
<String>

Stream
<String>

Stream
<SearchResults>

Stream
<SearchResults>



wordsToFind

"do", "re", "mi", "fa",
"so", "la", "ti", "do"

stream()

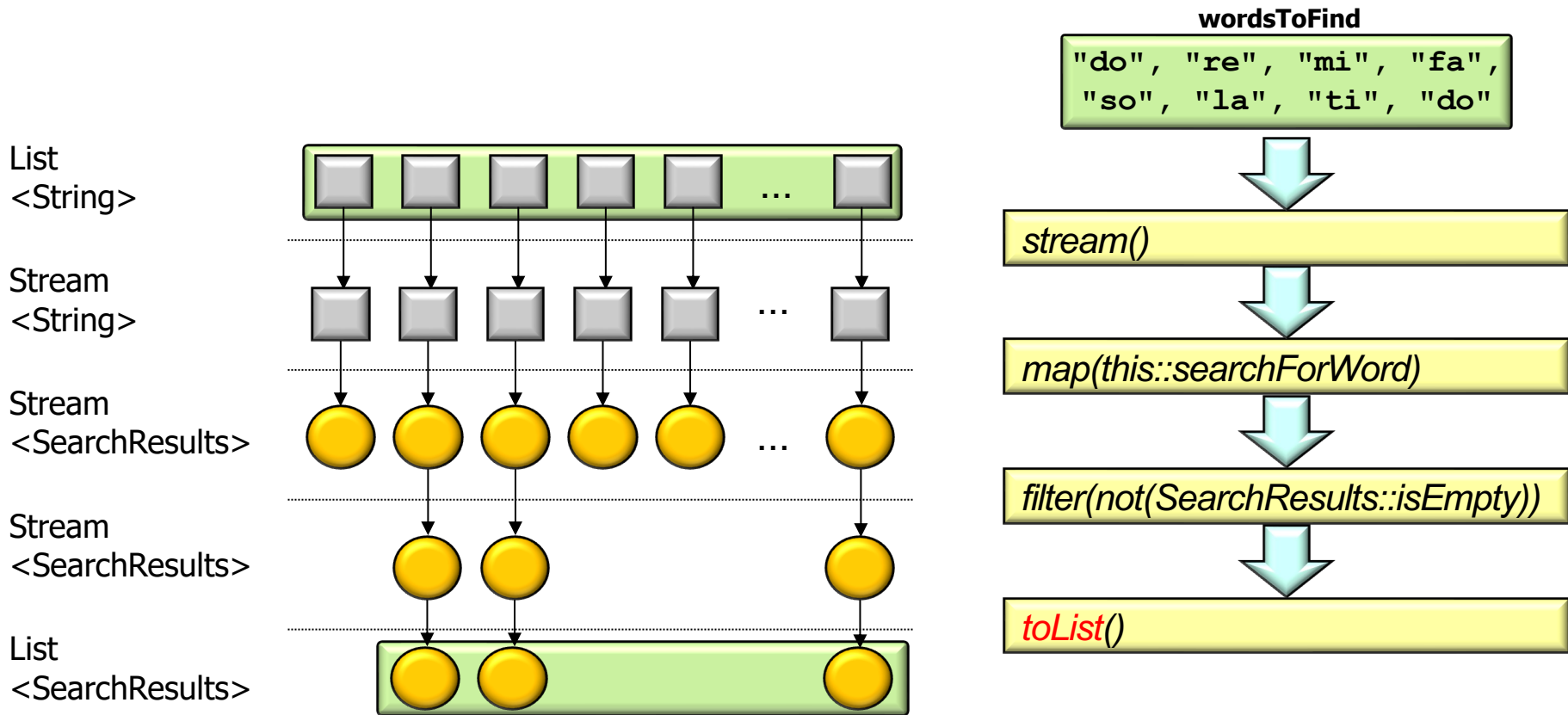
map(this::searchForWord)

filter(not(SearchResults::isEmpty))

toList()

Visualizing the WordSearcher.findWords() Method

- WordSearcher.findWords() searches for words in an input string



Trigger intermediate operation processing & return a list of non-empty search results

End of Visualizing the Word Searcher.findWords() Method