

# Concurrent Programming

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## 2: Java, Java, Java

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# Java

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- Question: How many Java programs are concurrent?

# Java

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- Question: How many Java programs are concurrent?
- Go to [socrative.com](http://socrative.com) and let's find out.
- Room name: DM519

# Java

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- We are going to freshen up on Java first.
- And maybe learn something new.
- Some things I'll use during the course:
  - Generics
  - Anonymous Inner Classes
  - Lambda expressions

# Generics

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- Type parameters for code.
- Meaning: You write code that is “generic” wrt types.  
*(note: wrt is short for “with respect to”)*
- Or: Your code can work with data of different types.
- <https://docs.oracle.com/javase/tutorial/java/generics/index.html>

# Anonymous Inner Classes

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- Inner Class: A class defined within a class. It has a name.
- Anonymous Inner Class: An Inner Class without a name.
- <https://docs.oracle.com/javase/tutorial/java/javaOO/nested.html>

# Lambda Expressions

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- Functions defined within code.
- <https://docs.oracle.com/javase/tutorial/java/javaOO/lambdaexpressions.html>



# For the next time

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- Read up the previous links.
- **Opt:** Define a generic class `Pair<K, V>` that can store pairs of values of any types.
- **Opt:** Create a List of `Pair<String, Integer>` with some values. For each pair containing a string `s` and an integer `n`, we say that `s` is associated to `n`.
- **Opt:** For each string (first value of a pair) in the list, print the sum of all integers associated to that string.