

Closures in Java – Brian’s approach vs. Martin’s approach

– Abstract –

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In the Project lambda (<http://openjdk.java.net/projects/lambda>) a new version (version 8) of Java is developed [Goe11] (Brian’s approach). The java language architect is Brian Goetz. We derived from an earlier version [Goe10] the language Java_λ [Plü11] (Martin’s approach).

While in Java 8 functional interfaces (interfaces with one method) are target types of lambda expressions, in Java_λ real function-types are the types of lambda expressions. This induces that subtyping of types of lambda expressions is completely different in Java 8 and Java_λ .

In Java 8 there is no eval-operator which applies a lambda expression to arguments. In Java 8 the application of a lambda expression can only be done by a method call of the corresponding method in the functional interface.

Additionally in Java 8 method and constructor references and default methods are added.

References

[Goe10] Brian Goetz. State of the lambda. 10 October 2010.

[Goe11] Brian Goetz. State of the lambda. December 2011.

[Plü11] Martin Plümicke. Well-typings for Java_λ . In *Proceedings of the 9th International Conference on Principles and Practice of Programming in Java*, PPPJ ’11, pages 91–100, New York, NY, USA, 2011. ACM.