

# RAG (Retrieval-Augmented Generation) Results

**Question:** java abstract classes

**Search Method:** Cosine

**Embedding Model:** text-embedding-3-small

**Generation Model:** Llama-3.3-70B-Instruct

**Generated:** 2025-07-24 15:53:07

## Generated Answer

Based on the provided context, Java abstract classes are defined as classes that cannot be instantiated on their own and are intended to be inherited by other classes. According to the context, an abstract class is defined using the "abstract" modifier (Source: Programare Java, page with Modificator CLAS■ METHOD■ VARIABIL■ table).<br/><br/>The context states that an abstract class "define■te o clas■ ■ablon (abstract■)" which translates to "defines a template class (abstract)" (Source: Programare Java, page with Modificator CLAS■ METHOD■ VARIABIL■ table). This means that an abstract class provides a partial implementation that can be shared by its subclasses.<br/><br/>Additionally, the context mentions that an abstract method is a "metod■ ■ablon (f■r■ a defini corpul func■iei)" which translates to "template method (without defining the function body)" (Source: Programare Java, page with Modificator CLAS■ METHOD■ VARIABIL■ table). This implies that an abstract method is declared but not implemented, and its implementation is left to the subclasses.<br/><br/>It's worth noting that the context does not provide a comprehensive overview of Java abstract classes, but rather a brief introduction to the concept. For more information, one would need to consult additional resources, such as the cited bibliography, including "Java 8 in Action" by Raoul-Gabriel Urma, Mario Fusco, Alan Mycroft, 2014, or "Building Java Programs", Chapter 19, Pearson 2016.<br/><br/>In terms of Java 9 specifically, the context mentions private methods in interfaces (Source: <https://www.journaldev.com/12850/java-9-private-methods-interfaces>), but does not provide detailed information on abstract classes. However, it does mention the "abstract" modifier in the context of interfaces, which suggests that Java 9 introduces new features related to abstract classes and interfaces. For more information on Java 9 features, one can consult the cited resources, such as "What's New in Oracle JDK 9", "Nine New Developer Features in JDK 9", or "Java 9 Modules".

## Performance Metrics

**Search Time:** 2.1301 seconds

**Generation Time:** 7.3072 seconds

**Total Time:** 9.4372 seconds

## Source Documents

### Source 1

**Document:** Java\_9.pdf

**Chunk:** 5

**Relevance Score:** 0.5144

**Content Preview:** Oct. 2017 <https://www.journaldev.com/12850/java-9-private-methods-interfaces>

### Source 2

**Document:** Curs2\_3\_SDJava.pdf

**Chunk:** 0

**Relevance Score:** 0.4680

**Content Preview:** Programare Java (2) prof.dr.ing. ■tefan -Gheorghe Pentiuc Modificator CLAS■  
METOD■ VARIABIL■ public acces permis tutoror claselorpoate fi apelat■ din orice clas■ poate fi  
consultat■ / modificat■ din ...

### Source 3

**Document:** Curs2\_3\_SDJava.pdf

**Chunk:** 10

**Relevance Score:** 0.4382

**Content Preview:** ecated. The finalization mechanism is inherently problematic. Class getClass ()  
Returns the runtime class of this Object. int hashCode () Returns a hash code value for the object. void  
notify () ...

### Source 4

**Document:** Java\_9.pdf

**Chunk:** 4

**Relevance Score:** 0.4372

**Content Preview:** erface, enum , obiecte , instructiuni etc). jshell > int counter = 0 counter ==> 0 jshell  
> counter++ \$6 ==> 0 jshell > counter counter ==> 1 BIBLIOGRAFIE •What's New in Oracle JDK ...

### Source 5

**Document:** ExpresiiLambda.pdf

**Chunk:** 6

**Relevance Score:** 0.4268

**Content Preview:** dia, 2014 •Java 8 in Action , by Raoul -Gabriel Urma , Mario Fusco , Alan Mycroft , 2014 Manning Publications •Building Java Programs , Chapter 19, Pearson 2016

## RAG Process Summary

This RAG (Retrieval-Augmented Generation) search performed the following steps:

1. **Retrieval:** Found 5 most relevant document chunks using cosine similarity with text-embedding-3-small model from <https://aihubmytesthub7294089329.openai.azure.com/>
2. **Augmentation:** Combined the retrieved content as context
3. **Generation:** Used Llama-3.3-70B-Instruct model from <https://aihubmytesthub7294089329.services.ai.azure.com/models> to generate a comprehensive answer based on the context

RAG provides more accurate and contextual answers by grounding the AI response in your specific document content. Using separate models and endpoints for embedding and generation allows for optimized performance and resource allocation.