#### **Appendix A: Code References and Sources**

## **Design Patterns & Architecture**

- 1. Strategy Pattern (SimilarityMeasure interface and implementations)
  - "Head First Design Patterns" by Freeman et al., Chapter 1
  - https://refactoring.guru/design-patterns/strategy
  - Implemented in: SimilarityMeasure.java, CosineSimilarity.java, ManhattanDistanceSimilarity.java
- 2. Output Strategy Pattern (OutputStrategy interface)
  - o <a href="https://www.baeldung.com/java-strategy-pattern">https://www.baeldung.com/java-strategy-pattern</a>
  - Implemented in: OutputStrategy.java, JsonOutputStrategy.java, FileAndConsoleOutput.java

## **Concurrent Programming**

- 3. Virtual Threads & Concurrent Processing
  - Java 21 Documentation: <a href="https://docs.oracle.com/en/java/javase/21/core/virtual-threads.html">https://docs.oracle.com/en/java/javase/21/core/virtual-threads.html</a>
  - o Implemented in: FileParser.java (loadEmbeddingsFile method)
- 4. ConcurrentHashMap Usage
  - Java Documentation:
     https://docs.oracle.com/en/java/javase/21/docs/api/java.base/java/util/concurrent/ConcurrentHashMap.html
  - o "Java Concurrency in Practice" by Brian Goetz, Chapter 5
  - o Implemented in: FileParser.java (embeddings field)

#### **Algorithms & Data Structures**

- 5. Word Vector Similarity Measures
  - o Cosine Similarity: <a href="https://en.wikipedia.org/wiki/Cosine\_similarity">https://en.wikipedia.org/wiki/Cosine\_similarity</a>
  - Manhattan Distance: <a href="https://en.wikipedia.org/wiki/Taxicab\_geometry">https://en.wikipedia.org/wiki/Taxicab\_geometry</a>
  - o Euclidean Distance: <a href="https://en.wikipedia.org/wiki/Euclidean\_distance">https://en.wikipedia.org/wiki/Euclidean\_distance</a>
  - Implemented in: CosineSimilarity.java, ManhattanDistanceSimilarity.java, EuclideanDistanceSimilarity.java
- 6. Word Embeddings Processing
  - o GloVe Paper: https://nlp.stanford.edu/pubs/glove.pdf
  - Implemented in: TextSimplifier.java (findClosestWord method)

### File Processing & I/O

7. Java NIO File Operations

- Java NIO Documentation: https://docs.oracle.com/javase/tutorial/essential/io/fileio.html
- Implemented in: FileParser.java (loadEmbeddingsFile, loadGoogleWordsFile methods)
- 8. JSON Output Generation
  - o JSON Format Specification: https://www.json.org/json-en.html
  - o Implemented in: JsonOutputStrategy.java

#### **User Interface**

- 9. Menu System
  - o "Clean Code" by Robert Martin, Chapter 14: Successive Refinement
  - o Implemented in: Menu.java

# **Error Handling & Utilities**

- 10. Exception Handling
  - Java Exception Handling Best Practices:
     https://docs.oracle.com/cd/E13214\_01/wli/docs92/bpguide/bpguideException.
     html
  - Implemented throughout the codebase, especially in FileParser.java and TextSimplifier.java
- 11. Message Utilities
  - Java String Formatting:
     https://docs.oracle.com/en/java/javase/21/docs/api/java.base/java/util/Formatter.html
  - o Implemented in: MessageUtil.java

# **Additional Resources**

- 12. Project Structure & Build
  - JAR File Specification: https://docs.oracle.com/javase/tutorial/deployment/jar/index.html
- 13. Documentation
  - o JavaDoc Documentation: <a href="https://www.oracle.com/technical-resources/articles/java/javadoc-tool.html">https://www.oracle.com/technical-resources/articles/java/javadoc-tool.html</a>
  - UML Class Diagrams: <a href="https://www.uml-diagrams.org/class-diagrams-overview.html">https://www.uml-diagrams.org/class-diagrams-overview.html</a>
  - o Implemented in: All Java files (JavaDoc comments)