README

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Basic Information

The project utilizes Java 21 and Maven 4.0.0 for building and dependency management.

Utilized Technologies and Dependencies

- Java 21: Programming language.
- Maven 4.0.0: Project management tool.

Main Dependencies:

- Jackson Databind (2.16.1): Handles JSON deserialization and serialization.
- JUnit Jupiter (5.9.0): Used for unit testing.
- Hamcrest (2.2): Enhances assertion making in tests, improving readability.

Plugin:

- Maven Shade Plugin (3.5.2): Enables the creation of so-called fat jars, which include all dependencies.

Library Functionality:

Developed Algorithm

The implemented backtracking algorithm aims to optimize the division of product lists into delivery groups. The goal is to minimize the number of used delivery methods while maximizing the size of the largest delivery group.

Additional Information:

- loadItems(String filePath) Method: The JsonLoader class converts a JSON file into a List<String>. This solution was introduced to meet the task requirement of providing product baskets in JSON format, while the split method accepts List<String> as an argument.
- displayMap(Map<String, List<String>> deliveryMap) Method: The MapDisplay class facilitates easy display of the mapping of delivery methods to product lists, significantly easing the visualization of the algorithm's solution.