Practical Test: Full Stack Software Developer

Java Classes and Design Patterns (60 minutes)

Task:

Implement a Java application that simulates a simple banking system. The application should include the following components:

- Bank class with methods for creating customer accounts and performing transactions.
- Customer class with attributes like name, account number, and balance.
- Account class with methods for depositing and withdrawing funds.

Requirements:

Utilize high hierarchy Java classes, inheritance, and design patterns where appropriate.

Implement a Singleton pattern to ensure there is only one instance of the Bank class.

Create sample customer accounts and demonstrate transactions (deposits and withdrawals).

Results:

Provide a zip file containing the source code and any necessary instructions for each part of the practical test.

Include a README file with an overview of your approach, technologies used, and any additional explanations.

Candidates are encouraged to focus on code quality, readability, and maintainability.

Prioritize functionality and core requirements over advanced features.