

- 1. A banking application calculates compound interest. Write a Java program to handle `ArithmeticException` when the user inputs an invalid value for the interest rate, such as dividing by zero.**
- 2. In a social media application, users can post comments on each other's profiles. Write a Java program to handle `NullPointerException` when attempting to display comments if a user's profile hasn't been initialized properly.**
- 3. A grocery store application maintains an array to store the stock of various items. Write a Java program to handle `ArrayIndexOutOfBoundsException` when a user tries to access the stock of an item that is out of the array bounds.**
- 4. Design a Java program for user registration where the user needs to input their age. Handle the `NumberFormatException` if the user enters a non-numeric value for age.**
- 5. Develop a Java application for a flight reservation system. Create a custom exception `SeatUnavailableException` to handle situations where a user tries to book a seat that is already taken.**