Threading and Exception Handling: Bank Transactions

Judgement Criteria:

- To see if you understand the concepts of Threading
- To see if you can apply the concepts of exception handling

Problem Description:

In this problem, you are given a code file, "BankController_Roll_XX.java". You can find a thread class entitled "Generator" in this file. This thread class generates random transactions in the following format.

`TRANSACTION 223456 DEPOSIT 10000 CUSTOMER 3`
`TRANSACTION 211478 WITHDRAW 7000 CUSTOMER 10000`
`TRANSACTION 313388 CREATE CUSTOMER RIZVEE`
……

There will be three main types of transactions: Deposit, withdraw, and create new customers. Based on these types, you need to design three separate thread classes.

- One thread will handle all the deposit-type transactions, add money to the account of the customers
- One thread will handle all the withdraw type transactions, remove money from the account of the customers
- One thread will handle all the customer creation type transactions, creating new customers.

Constraints:

- There will be At most 1000 new customers.
- If a customer is not found to deposit/withdraw, two separate exceptions are required to be thrown
- If a transaction asks for more withdrawal than the total balance of the customer's account, an exception should be thrown.
- **Design an appropriate printing format, for an easier understanding of your solution's each component**.

Submission Format:

- The name of the main class should Contain your roll for easier access (X denoting your roll).
- Submit your Java file in Google Classroom. There should be a single Java file, containing all of your codes in runnable format.
- Use proper commentation and indentation.
- Before submission, show your solution to your lab teacher.

CODE TEMPLATE:

Link: https://drive.google.com/file/d/1vj1BkAo82js9W6u-NCw-8YzInI23uSgY/view?usp=sharing