Object Oriented Programming
Lab 12 Exception Handling

April 18, 2023

1 Lab Goal

The purpose of this lab is to understand how to handle different types of exception including checked and unchecked exception. You will also get similar on how to create custom exception

2 Problems

We will read the problems carefully as one will lead to another.

2.1 Problem 1 - Multiplication to 2 Number

Write a program that takes two number, multiply the two numbers and print the result. Handle the exception that checks for multiplication of a string with number, in this case answer should be string printed n times where n would be the value of integer. E.g. 2*3 = 6 3*"Hi" is an error in Java, handle it in such a way that answer is "HiHiHi".

2.2 Problem 2 - Dynamic Array Expansion with User Input Handling

Write a program that defines an array of size 5 with random integer values, ask user to give an index and a value, and store that value on the given index. Handle the exception that if user gives index greater than 5, then create a new array of the size of user's given index, and copy all the previous array's values to new array with user's value as well.

2.3 Problem 3 - Subtraction of 2 Numbers

Write a program that take 2 numbers, subtract the two numbers and print the result. Handle the exception that if subtraction is of a string and a number, in this case output should be n characters subtracted from the string where n is the number given by user e.g. "Hello" – 2 should give "Hel", "Carpet" – 3 should give "Car". Handle a nested exception that if the number given by user is greater than string's length. Then output should be "Not Possible".

2.4 Problem 4 - Sum of Digits

Write a program which takes a user input of three-digit from the user and display the sum of its digits. Write a custom exception for its input which should handle the exception if the number is negative or more than 999 and display the error.

2.5 Problem 5 - Division by 0

You are building a program that divides two numbers entered by the user. Write a program that handles the ZeroDivisionError exception that may occur if the user enters 0 as the second number. If the exception occurs, the program should print an error message and ask the user to enter the second number again. The program should keep asking until the user enters a non-zero number.