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OOPS Lab Assignment 4

Code

import java.util.Scanner;

public class Assignment4 {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        try {

            System.out.println("Enter the number of students:");

            int numberOfStudents = scanner.nextInt();

            String[] studentNames = new String[numberOfStudents];

            int[] marks = new int[numberOfStudents];

            // Input student names and marks

            for (int i = 0; i < numberOfStudents; i++) {

                System.out.println("Enter the name of student " + (i + 1) + ":");

                String name = scanner.next();

                // Handle null name scenario

                if (name.equals("null")) {

                    throw new NullPointerException("Student name cannot be null");

                }

                studentNames[i] = name;

                System.out.println("Enter the marks of " + name + ":");

                int mark = scanner.nextInt();

                // Handle invalid mark scenario

                if (mark < 0 || mark > 100) {

                    throw new IllegalArgumentException("Invalid marks: Marks should be between 0 and 100");

                }

                marks[i] = mark;

            }

            // Output student names and marks

            System.out.println("Student marks:");

            for (int i = 0; i < numberOfStudents; i++) {

                System.out.println(studentNames[i] + ": " + marks[i]);

            }

            // Perform division operation

            System.out.println("Convert student marks by distribution:");

            int dividend = 10;

            System.out.println("Enter the divisor:");

            int divisor = scanner.nextInt();

            if (divisor == 0) {

                throw new ArithmeticException("Cannot divide by zero");

            }

            int quotient = dividend / divisor;

            System.out.println("Quotient: " + quotient);

        } catch (ArrayIndexOutOfBoundsException e) {

            System.out.println("Caught ArrayIndexOutOfBoundsException: Index is out of bounds");

        } catch (IllegalArgumentException e) {

            System.out.println("Caught IllegalArgumentException: " + e.getMessage());

        } catch (NullPointerException e) {

            System.out.println("Caught NullPointerException: " + e.getMessage());

        } catch (ArithmeticException e) {

            System.out.println("Caught ArithmeticException: " + e.getMessage());

        }

        scanner.close();

    }

}

Output

