2)Adding Proper Exception Handiling for ArrayIndexOutOfBoundExcaption

public class ArrayIndexExample {

    public static void main(String[] args) {

        int[] numbers = {1, 2, 3, 4, 5};

        try {

            int result = accessArrayElement(numbers, 10); // Invalid index

            System.out.println("Result: " + result);

        } catch (ArrayIndexOutOfBoundsException e) {

            System.out.println("ArrayIndexOutOfBoundsException caught: " + e.getMessage());

        }

        System.out.println("Program continues...");

    }

    private static int accessArrayElement(int[] array, int index) {

        if (index < 0 || index >= array.length) {

            throw new ArrayIndexOutOfBoundsException("Invalid array index: " + index);

        }

        return array[index];

    }

}