

# Exception handling, String Builder

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1. Write a Java program that:

- i. Takes two numbers from the user.
- ii. Divides the first number by the second.
- iii. Handles the following exceptions:
  - o **ArithmeticException** (e.g., divide by zero).
  - o **InputMismatchException** (if the user enters something other than a number).
  - o A generic **Exception** for anything unexpected.
- iv. Finally, prints "Program finished" no matter what happens.

2. Write a Java program with a method:

- calculateSquareRoot(double num)
  - o If num is negative, throw an **IllegalArgumentException** with the message "Number cannot be negative".
  - o Otherwise, return the square root of the number.

In the main method: Ask the user for a number, Call calculateSquareRoot(), Handle the exception properly.

3. Write a Java program

- i. Take a string input from the user.
- ii. Perform the following operations using **StringBuilder**:
  - o Append another string " - Java Lab" to it.
  - o Display the number of characters after appending the string.
  - o Insert "Programming" after the first word.
  - o Reverse the entire string.
  - o Replace the first 3 characters with "XYZ".
- iii. Print the results after each operation.