

## Experiment - 4.

# Demonstrating Exception handling in Java.

Write a Java program to demonstrate exception handling. The program should take two integers as input and perform division. Implement exception handling for division by zero and other potential exceptions. Display the appropriate error messages for each exception.

## Aim:-

To demonstrate exception handling techniques in Java by using a try-catch block to handle runtime errors such as division by zero.

## Objective:-

To understand how exception handling works in Java specifically for handling division by zero and ensure the program does not crash on runtime errors.

Program.

```
import java.util.Scanner;
```

```
public class Exceptional Handling Example {
```

```
public class static void main(String[] args) {
```

```
    Scanner sc = new Scanner (System.in);
```

```
    int num1, num2;
```

```
    try {
```

```
        System.out.println("Enter first number");
```

```
        num1 = sc.nextInt();
```

```
        System.out.println("Enter 2nd Number");
```

```
        num2 = sc.nextInt();
```

```
        int result = num1 / num2;
```

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

```
    } catch (Arithmetic exception express e) {
```

```
        System.out.println("Error: Division by  
zero is not allowed");
```

```
    } catch (Exception e) {
```

```
        System.out.println("An error occurred" + e.  
        getMessage());
```

```
    } finally {
```

```
        System.out.println("This block always  
execute");
```

```
    }
```

```
}
```

```
}
```



## Test cases:-

### Test case 1:-

→ Test Name:- Division by zero.

→ Input:- First number 10, second number = 0.

→ Expected result:- Error message "Division by zero is not allowed".

→ Actual result:- Error message "Division by zero is not allowed".

→ Pass/Fail:- Pass

### Test case 2:-

→ Test case:- Valid Division.

→ Input:- 1st number 10, 2nd Number = 2

→ Expected result:- "Result: 5"

→ Actual result:- "Result: 5"

→ Pass/Fail:- Pass.

### Test case 3:-

→ Test name:- Invalid input

→ Input:- 1st number "abc", 2nd number = 2

→ Expected result:- Error "An error occurred for input string: "abc"

→ Actual result:- Error "An error occurred for input string: "abc"

→ Pass/Fail:- Pass.

## Conclusion -

This program demonstrates the use of exception handling in Java, specifically for handling runtime errors such as division by zero. The try catch block ~~see~~ ensures the program doesn't crash when an exception occurs & the finally block executes regardless of whether an exception ~~was thrown~~.

Vaib  
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