Practical 11

```java
package practical
import java.util.Scanner

public class MultipleExceptionDemo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        try {
            // 1. ArithmeticException - Divide by zero
            System.out.print("Enter numerator: ");
            int num1 = sc.nextInt();
            System.out.print("Enter denominator: ");
            int num2 = sc.nextInt();
            int result = num1 / num2;
            System.out.println("Result: " + result);

            // 2. ArrayIndexOutOfBoundsException
            int[] arr = {10, 20, 30};
            System.out.print("Enter array index (0-2): ");
            int index = sc.nextInt();
            System.out.println("Array element: " + arr[index]);

            // 3. NumberFormatException
            System.out.print("Enter a number (try a letter to trigger error): ");
            String input = sc.next(); // example: "abc"
            int number = Integer.parseInt(input); // X risky
            System.out.println("Converted number: " + number);

        } catch (ArithmeticException e) {
            System.out.println("Error: Cannot divide by zero.");

        } catch (ArrayIndexOutOfBoundsException e) {
            System.out.println("Error: Invalid array index.");

        } catch (NumberFormatException e) {
            System.out.println("Error: Invalid number format.");

        } catch (Exception e) {
            // This will catch any other exception not handled above
            System.out.println("Some other error occurred: " + e);
        }

        System.out.println("Program continues after exception handling");
        sc.close();
    }
}

Output:

Enter numerator: 10
Enter denominator: 5
Result: 2
```

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54   Enter array index (0-2): 5
55   Error: Invalid array index.
     Program continues after exception handling
```