

Exception handling

Questin 01

```
import java.util.Scanner;

public class DivisionWithExceptionHandling {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the numerator: ");

        int numerator = scanner.nextInt();

        System.out.print("Enter the denominator: ");

        int denominator = scanner.nextInt();

        try {

            int result = divide(numerator, denominator);

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

        } catch (ArithmeticException ex) {

            System.out.println("Error: Cannot divide by zero!");

        }

    }

    public static int divide(int numerator, int denominator) {

        if (denominator == 0) {

            throw new ArithmeticException("Divide by zero error!");

        }

        return numerator / denominator;

    }

}
```

Question 02

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

```
public class ArrayAccessWithExceptionHandling {
```

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

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

```
        System.out.print("Enter the size of the array: ");
```

```
        int size = scanner.nextInt();
```

```
        int[] numbers = new int[size];
```

```
        // Fill the array with some sample data for demonstration purposes
```

```
        for (int i = 0; i < size; i++) {
```

```
            numbers[i] = i * 10;
```

```
        }
```

```
        System.out.print("Enter the index to access: ");
```

```
        int index = scanner.nextInt();
```

```
        try {
```

```
            int value = accessArrayElement(numbers, index);
```

```
            System.out.println("Value at index " + index + ": " + value);
```

```
        } catch (ArrayIndexOutOfBoundsException ex) {
```

```
            System.out.println("Error: Invalid index. Please enter a valid index within 0 and " + (size - 1) + ".");
```

```
        }
```

```
    }
```

```
    public static int accessArrayElement(int[] array, int index) {
```

```
        return array[index];
    }
}
```

Question 03

```
import java.io.File;
import java.io.FileNotFoundException;
import java.util.Scanner;

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

        System.out.print("Enter the file path: ");
        String filePath = scanner.nextLine();

        try {
            readFile(filePath);
        } catch (FileNotFoundException ex) {
            System.out.println("Error: File not found. Please check the file path and try again.");
        }
    }

    public static void readFile(String filePath) throws FileNotFoundException {
        File file = new File(filePath);
        Scanner fileScanner = new Scanner(file);

        // Read and process the content of the file (you can add your own logic here)
        while (fileScanner.hasNextLine()) {
```

```
        String line = fileScanner.nextLine();  
        System.out.println(line);  
    }  
  
    fileScanner.close();  
}  
}
```