Exception handing

1.

Write a Java program that takes two integers as input and performs division on them. Implement exception handling to catch and handle the ArithmeticException that occurs when dividing by zero.

```
package com.mycompany.ExceptionHandling;

public class ExceptionHandling {

   public static void main(String[] args)

{

      Scanner scanner = new Scanner(System.in);

      try {

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

         int number = scanner.nextInt();

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

         int denominator = scanner.nextInt();

         int result = divideNumbers(number, denominator);

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

      } catch (ArithmeticException.e) {

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

      } catch (Exception.e) {

         System.out.println("Error: Invalid input.");

      } finally {

         scanner.close();

      }
```

```
    }
    public static int divideNumbers(int number, int denominator) {
        return number / denominator;
    }
}
```

2.

Write a Java program that creates an array of integers and attempts to access an index that is out of bounds. Implement exception handling to catch and handle the ArrayIndexOutOfBoundsException.

```
package com.mycompany.ExceptionHandling;
public class ExceptionHandling {
    public static void main(String[] args) {
        int[] numbers = { 1, 2, 3, 4 };
        try {
            int index = 10;
            int value = numbers[index];
            System.out.println("Value at index " + index + ": " + value);
        } catch (ArrayIndexOutOfBoundsException e) {
            System.out.println("Error: Index is out of bounds. Please change a valid index.");
        } catch (Exception e) {
            System.out.println("Error: An error ");
        }
```

```
    }
}
```

3.

Write a Java program that attempts to read a file that does not exist. Implement exception handling to catch and handle the FileNotFoundException. Print an appropriate error message if the file is not found.

```
package com.mycompany.ExceptionHandling;

public class ExceptionHandling {
    public static void main(String[] args) {
        String fileName = "nonexistent_file.txt";
        try {
            File file = new File(fileName);
            Scanner scanner = new Scanner(file);
            scanner.close();
        } catch (FileNotFoundException.e) {
            System.out.println("Error: File '" + fileName + "' not found.");
        } catch (Exception.e) {
            System.out.println("Error: An error");
        }
    }
}
```