Exception handing

Question 01

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.

Print an appropriate error message if the denominator is zero.

```
import java.util.Scanner;


public class Division {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter numerator: ");
      int numerator = scanner.nextInt();
      System.out.print("Enter denominator: ");
      int denominator = scanner.nextInt();
      try {
         int result = numerator / denominator;
         System.out.println("Result: " + result);
      } catch (ArithmeticException e) {
         System.out.println("Error: Cannot divide by zero");
      }
      scanner.close();
   }
}
```

Question 02

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.

Print an appropriate error message if an invalid index is accessed.

```
public class ArrayOutOfBounds {
  public static void main(String[] args) {
    int[] array = {1, 2, 3};
    try {
      int value = array[3];
      System.out.println("Value: " + value);
    } catch (ArrayIndexOutOfBoundsException e) {
      System.out.println("Error: Invalid index");
    }
  }
}
```

Question 03

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.

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

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

```
            File file = new File("nonexistent.txt");
            Scanner scanner = new Scanner(file);
            while (scanner.hasNextLine()) {
                System.out.println(scanner.nextLine());
            }
            scanner.close();
        } catch (FileNotFoundException e) {
            System.out.println("Error: File not found");
        }
    }
}
```