**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 ArithmeticException {

public static void main(String[] args) {

int numerator;

int denominator;

int result;

Scanner sc=new Scanner(System.in);

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

numerator=sc.nextInt();

System.out.println("Enter the denominator");

denominator=sc.nextInt();

try

{

result=num1/num2;

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

}

catch(ArithmeticException e)

{

System.out.println("Error: cannot divide by Zero.");

}

sc.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 accesse

import java.util.Scanner;

public class ArrayIndexOutOfBoundException {

public static void main(String[] args) {

Scanner sc=new Scanner(System.in);

System.out.println("Enter the size of Array: ");

int size=sc.nextInt();

int[] array=new int[size];

System.out.println("Enter "+size+"elements: ");

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

{

array[i]=sc.nextInt();

}

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

int index=sc.nextInt();

try

{

int element=array[index];

System.out.println("Elemeny at index : "+index+":"+element);

}

catch(ArrayIndexOutOfBoundException e)

{

System.out.println("Error:The index should be in the range of 0 to"+(size-1));

}

sc.close();

}

}

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 FileReadExample {

public static void main(String[] args) {

String fileName = "non\_existent\_file.txt";

try

{

File file = new File(fileName);

Scanner sc = new Scanner(file);

while (sc.hasNextLine()) {

String line = sc.nextLine();

System.out.println(line);

}

sc.close();

}

catch (FileNotFoundException e)

{

System.out.println("Error: The file '" + fileName + "' was not found.");

}

}

}