Institute of Computer Technology

B. Tech. Computer Science and Engineering

Semester: III

Sub: Object-Oriented Programming

Course Code: 2CSE303

Practical Number:12

**Objective: To learn about exception handling concepts in Java.**

**Problem Definition:**

**Q.1. Write an appropriate program of the following Unchecked (runtime) exception**

1. Arithmetic Exception.

2. ArrayIndexOutOfBoundException.

3. ClassCastException.

4. IllegalParameterException.

E.g

import java.util.Scanner;

public class UncheckedExceptionExamples {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

System.out.println("Select an exception to demonstrate:");

System.out.println("1. ArithmeticException");

System.out.println("2. ArrayIndexOutOfBoundsException");

System.out.println("3. ClassCastException");

System.out.println("4. IllegalArgumentException");

int choice = scanner.nextInt();

switch (choice) {

case 1:

try {

int result = 10 / 0; // Division by zero

} catch (ArithmeticException e) {

System.out.println("ArithmeticException occurred: " + e.getMessage());

}

break;

case 2:

try {

int[] arr = {1, 2, 3};

System.out.println(arr[5]); // Invalid index

} catch (ArrayIndexOutOfBoundsException e) {

System.out.println("ArrayIndexOutOfBoundsException occurred: " + e.getMessage());

}

break;

case 3:

try {

Object obj = new Integer(100);

String str = (String) obj; // Invalid casting

} catch (ClassCastException e) {

System.out.println("ClassCastException occurred: " + e.getMessage());

}

break;

case 4:

try {

Thread t = new Thread();

t.setPriority(20); // Invalid priority

} catch (IllegalArgumentException e) {

System.out.println("IllegalArgumentException occurred: " + e.getMessage());

}

break;

default:

System.out.println("Invalid choice!");

break;

}

scanner.close();

}

}