

CHAROTAR UNIVERSITY OF SCIENCE & TECHNOLOGY**DEVANG PATEL INSTITUTE OF ADVANCE TECHNOLOGY & RESEARCH**

Department of Computer Science & Engineering

Subject Name: Java Programming**Semester:** 3**Subject Code:** CSE201**Academic year:** 2024 - 25**PART – 5 (Exception Handling)**

No.	Aim of the Practical
24.	<p>Write a java program which takes two integers x & y as input, you have to compute x/y. If x and y are not integers or if y is zero, exception will occur and you have to report it.</p> <p><u>PROGRAM CODE:</u></p> <pre>import java.util.Scanner; class pra24 { public static void main(String[] args) { Scanner scanner = new Scanner(System.in); try { System.out.print("A Value of x: "); int x = scanner.nextInt(); System.out.print("A Value of y: "); int y = scanner.nextInt(); int z = x / y; System.out.println("z: " + z); } catch (Exception e) { System.out.println("Exception is Handled: " + e); } } }</pre>

```

    }
    System.out.println("23DCS030_Shreya Garasia");
}
}

```

OUTPUT:

```

A Value of x: 5
A Value of y: 0
Exception is Handled: java.lang.ArithmeticException: / by zero
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```

CONCLUSION:

In This Practical We Learnt About Arithmetic Exception.

25. Write a Java program that throws an exception and catch it using a try-catch block.

PROGRAM CODE:

```

import java.util.Scanner;

class pra25
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);

        try
        {
            int[] arr = { 10, 20, 30};
            System.out.println("Enter The Value: " );
            int index = sc.nextInt();
            System.out.println("Value at index " + index + ": " + arr[index]);

        }
        catch (ArrayIndexOutOfBoundsException e)
        {
            System.out.println("Array Index out of Bound Exception is Handled: " + e);
            System.out.println("23DCS030_Shreya Garasia");

        }
    }
}

```

OUTPUT:

```
Enter The Value:
4
Array Index out of Bound Exception is Handled: java.lang.ArrayIndexOutOfBoundsException: Index 4 out of bounds for length 3
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C:\Users\shrey\OneDrive\Desktop\3SEM JAVA>java pra25
Enter The Value:
1
Value at index 1: 20
```

CONCLUSION:

In This Practical We Perform ArrayOutOfBoundException with Try and Block Method.

26(1).

Write a java program to generate user defined exception using “throw” and “throws” keyword.

PROGRAM CODE:

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

```
// PRACTICAL 26(1)
```

```
class InvalidEntryException extends Exception
```

```
{
    public InvalidEntryException(String message)
    {
        super(message);
    }
}
```

```
class pra26
```

```
{
    public static void checkEntry(int entry) throws InvalidEntryException
    {
        if (entry > 25)
        {
            throw new InvalidEntryException ("You Cannot Get in The Competition.");
        }
        else
        {
            System.out.println("Valid entry: " + entry);
        }
    }
    public static void main(String[] args)
```

```

{
    Scanner sc = new Scanner(System.in);
    System.out.print("Enter the competition entry: ");
    int entry = sc.nextInt();

    try
    {
        checkEntry(entry);
    }

catch (InvalidEntryException e)
{
    System.out.println("Caught Exception: " + e.getMessage());
}

    System.out.println("23DCS030_Shreya Garasia");
}
}

```

OUTPUT:

```

Enter the competition entry: 20
Valid entry: 20
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C:\Users\shrey\OneDrive\Desktop\3SEM JAVA>java pra26.java
Enter the competition entry: 30
Caught Exception: Yoy Cannot Get in The Competition.
23DCS030_Shreya Garasia

```

CONCLUSION:

In This Practical we performed Valid Or Invalid Exception.

26(2). Write a java that differentiates checked and unchecked exceptions. (Mention at least two checked and two unchecked exceptions in program).

PROGRAM CODE:

```

import java.io. FileNotFoundException;
import java.io.FileReader;
import java.io.IOException;

class pra261
{
    public static void readFile() throws FileNotFoundException, IOException
    {

```

```

        FileReader file = new FileReader("nonexistentfile.txt");
        file.read();
    }
    public static void main(String[] args)
    {
        try
        {
            readFile();
        }
        catch (FileNotFoundException e)
        {
            System.out.println("Found Checked Exception: " + e.getMessage());
        }
        catch (IOException e)
        {
            System.out.println("Found Checked Exception: " + e.getMessage());
        }
        try {
            int result = 10 / 0;
        }
        catch (ArithmeticException e)
        {
            System.out.println("Found Unchecked Exception: " + e.getMessage());
        }
        try
        {
            String str = null;
            str.length();
        }
        catch (NullPointerException e)
        {
            System.out.println("Found Unchecked Exception: " + e.getMessage());
        }
        System.out.println("23DCS030_Shreya Garasia");
    }
}

```

OUTPUT:

```

Found Checked Exception: nonexistentfile.txt (The system cannot find the file specified)
Found Unchecked Exception: / by zero
Found Unchecked Exception: Cannot invoke "String.length()" because "<local1>" is null
23DCS030_Shreya Garasia

```

CONCLUSION:

	In This Practical We Find Checked and Unchecked Exception.
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