

ASSIGNMENT

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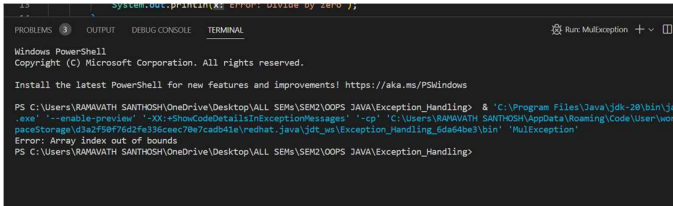
ROLL NO: 22MCF1R40

2ND SEMESTER, 1ST YEAR, MCA

EXCEPTION HANDLING

Q1: Multiple Exception

```
public class MulException {
    public static void main(String[] args) {
        try {
            int num1 = Integer.parseInt(args[0]);
            int num2 = Integer.parseInt(args[1]);
            int result = num1/num2;
            System.out.println(result);
        } catch (ArrayIndexOutOfBoundsException e) {
            System.out.println("Error: Array index out of bounds");
        } catch (NumberFormatException e) {
            System.out.println("Error: Number format exception");
        } catch (ArithmeticException e) {
            System.out.println("Error: Divide by zero");
        }
    }
}
```



Q2: Nested Try

```
public class NestedTry {
    public static void main(String[] args) {
        try {
            // outer try block
            int[] arr = {1, 2, 3};
            int n = Integer.parseInt(args[0]);
            System.out.println(arr[n]); // This will throw an ArrayIndexOutOfBoundsException
        } catch (ArrayIndexOutOfBoundsException e) {
            // inner try block
            int a = 0;
            int b = 5/a; // This will throw an ArithmeticException
        } catch (ArithmeticException e) {
            System.out.println("Arithmetic Exception occurred");
        }
    }
}
```

```

        System.out.println("Array Index Out Of Bounds Exception occurred");
    }
}
}

```

```

PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling> & 'C:\Program Files\Java\jdk-20\bin\j
--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\RAMAVATH SANTHOSH\AppData\Roaming\Code\User\workspace
a2f50f76d2fe336ceec70e7cadb41e\redhat.java\jdt_ws\Exception_Handling_6da64be3\bin' 'NestedTry'
Array Index Out Of Bounds Exception occurred
PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling>

```

Q3: Null Pointer Exception

```

public class NullPointerException {
    public static void main(String[] args) {
        String str = null;
        try {
            int len = str.length();
            System.out.println(len);
        } catch (java.lang.NullPointerException e) {
            System.out.println("Error: Null pointer exception");
        }
    }
}

```

```

PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling> & 'C:\Program Files\Java\j
dk-20\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\RAMAVATH SANTHOSH\AppData\Roaming\Code\User\workspaceStorage\d3a2f50f76d2fe336ceec70e7cadb41e\redhat.java\jdt_ws\Exception_Handling_6da64be3\bin' 'NullPointerException'
Error: Null pointer exception
PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling>

```

Q4: Invalid Age Exception

```

class InvalidAgeException extends Exception{
    public InvalidAgeException(String errorMessage){
        super(errorMessage);
    }
}

public class InValAgeException {
    static void validateAge(int age) throws InvalidAgeException{
        if(age < 18){
            throw new InvalidAgeException("Age must be greater than or equal to 18");
        }
        else{

```

```

        System.out.println("Valid age!");
    }
}

public static void main(String[] args){
    try{
        int a = Integer.parseInt(args[0]);
        validateAge(a);
    }
    catch(Exception e){
        System.out.println("Caught exception: " + e);
    }
}
}

```

Q5: File Not Found Exception

```

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

public class FNFEException {
    public static void main(String[] args) {
        try {
            File file = new File("myfile.txt");
            Scanner sc = new Scanner(file);
            while(sc.hasNextLine()) {
                System.out.println(sc.nextLine());
            }
            sc.close();
        } catch (FileNotFoundException e) {
            System.out.println("Error: File not found");
        }
    }
}

```

```

PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling> & 'C:\Program Files\Java\jdk-20\bin\java.exe' '-enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\RAMAVATH SANTHOSH\AppData\Roaming\Code\User\workspaceStorage\d3a2f50f76d2fe336ceec70e7cadb41e\redhat.java\jdt_ws\Exception_Handling_6da64be3\bin' 'FNFEException'
Error: File not found
PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling>

```

Q6: Negative Number Exception

```

class NegativeNumberException extends Exception {
    public NegativeNumberException(String message) {
        super(message);
    }
}

```

```

    }
}

public class UserDefinedException {
    public static int add(int x, int y) throws NegativeNumberException {
        if (x < 0 || y < 0) {
            throw new NegativeNumberException("Negative numbers not allowed");
        }
        return x + y;
    }

    public static void main(String[] args) {
        try {
            int result = add(2, -5);
            System.out.println("Result: " + result);
        } catch (NegativeNumberException e) {
            System.out.println("Caught exception: " + e);
        }
    }
}

```

```

PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling> & 'C:\Program Files\Java\jdk-20\bin\java.exe'
-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:64539' '-enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages'
'-cp' 'C:\Users\RAMAVATH SANTHOSH\AppData\Roaming\Code\User\workspaceStorage\d3a2f50f76d2fe336ceec70e7caddb41e\redhat.java\jdt_ws\Exception
_Handling_6da64be3\bin' 'UserDefinedException'
Caught exception: NegativeNumberException: Negative numbers not allowed
PS C:\Users\RAMAVATH SANTHOSH\OneDrive\Desktop\ALL SEMs\SEM2\OOPS JAVA\Exception_Handling>

```

Q7: Divide by Zero Exception

```

public class DivideByZeroException {
    public static void main(String[] args) {
        int num1 = 10;
        int num2 = 0;
        try {
            int result = num1/num2;
            System.out.println(result);
        } catch (ArithmeticException e) {
            System.out.println("Error: Divide by zero");
        }
    }
}

```

```
PS C:\Users\RAMAVATH_SANTHOSH\OneDrive\Desktop\ALL_SEMs\SEM2\OOPS_JAVA\Exception_Handling> & 'C:\Program Files\Java\jdk-20\bin\java.exe' '-agentlib:jdwp=transport=dt_socket,server=n,suspend=y,address=localhost:64671' '--enable-preview'
'-XX:-ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\RAMAVATH_SANTHOSH\AppData\Roaming\Code\User\workspaceStorage\
e1d9a2f59f76d2fe336ceec70e7cadb41e\redhat.java\jdt_ws\Exception_Handling_6da649e3\bin' 'DivideByZeroException'
Error: Divide by zero
PS C:\Users\RAMAVATH_SANTHOSH\OneDrive\Desktop\ALL_SEMs\SEM2\OOPS_JAVA\Exception_Handling>
```