

## Assignment - 10

Q1)

```
package Exception;

import java.util.*;

public class Exception {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int a;
        int b;
        int c;
        System.out.println("Enter two number: ");
        a = sc.nextInt();
        b = sc.nextInt();

        try {
            c = a / b;
            System.out.println("Result = " + c);
        } catch (ArithmeticException e) {
            System.err.println(e);
        } finally {
            System.out.println("Operation has completed");
        }
    }
}
```

```
<terminated> Exception [Java Application] C:\Users\hp\Downloads\ecli
Enter two number:
5
0
java.lang.ArithmeticException: / by zero
Operation has completed
```

Q2)

```
package Exception;

import java.util.*;

public class ArrayBound {
    public static void main(String[] args) {
        int[] numbers = { 10, 20, 30, 40, 50 };
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a index to access: ");
        int a = sc.nextInt();

        try {

            System.out.println("Enter the index " + a + ":" + numbers[a]);
        } catch (ArrayIndexOutOfBoundsException e) {
            System.out.println("Exception caught: " + e);
        } finally {
            System.out.println("Array access operation is complete.");
        }
    }
}
```

Enter a index to access:

5

Exception caught: [java.lang.ArrayIndexOutOfBoundsException](#): Index 5 out of bounds for length 5  
Array access operation is complete.

Q3)

```
package Exception;

public class NullPointerDemo {

    public static void main(String[] args) {
        String str = null;

        try {
            System.out.println("Length: " + str.length());
        } catch (NullPointerException e) {
            System.err.println(e);
        } finally {
            System.out.println("The operation is performed");
        }
    }
}
```

java.lang.NullPointerException: Cannot invoke "String.length()" because "str" is null  
The operation is performed

Q4)

```
1 package Exception;
2 import java.util.*;
3 public class NumberFormatExceptions {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.println("Enter a String: ");
7         String a = sc.nextLine();
8
9
10        try {
11            int number = Integer.parseInt(a);
12            System.out.println("Converted number :" + a);
13        }
14
15        catch(NumberFormatException e) {
16            System.err.println(e);
17        }
18        finally {
19            System.out.println("Operation on is done");
20        }
21
22    }}
23
```

Problems | javadoc | Declaration | Console | Install Java 23 Support  
terminated> NumberFormatExceptions [Java Application] C:\Users\hp\Downloads\eclipse-jee-2023-09-Release-Id1020230919-win32-x86\_64.exe  
Enter a String:  
five  
java.lang.NumberFormatException: For input string: "five"  
Operation on is done

Q5)

```
package Exception;

import java.util.Scanner;

public class ArithmeticExceptions {
    public static void main(String[] args) {
        try {
            try {
                int a = 10;
                int b = 0;
                int c = a / b;
                System.out.println(c);
            } catch (ArithmeticException e) {
                System.err.println(e);
            }
            try {
                int[] arr = { 10, 20, 30, 40, 50 };
                System.out.println("Enter the index " + arr[5]);
            }

            catch (ArrayIndexOutOfBoundsException e) {
                System.err.println(e);
            }
        } finally {
            System.out.println("Operation Completed");
        }
    }
}
```

Problems Javadoc Declaration Console X Install Java 25 Support  
terminated> ArithmeticExceptions [Java Application] C:\Users\hp\Downloads\eclipse-jee-2025-09-R-win32-x86\_64\eclipse\plugin  
java.lang.ArithmeticException: / by zero  
java.lang.ArrayIndexOutOfBoundsException: Index 5 out of bounds for length 5  
Operation Completed

Q6)

```
package Customer;

public class Customer {

    String Name;
    String Add;
    double id;
    double Pn;
    double intrest;
    Account a;

    public Customer(String Name, String Add, double id, double Pn, Account a) {
        this.Name = Name;
        this.Add = Add;
        this.id = id;
        this.Pn = Pn;
        this.a = a;
    }

    public void displayCustomer() {
        System.out.println("Name: " + Name + "\nAddress: " + Add + "\nID: " + id + "\nPhone No: " + Pn);
        a.displayacc();
    }

    public void calInt() {
        try {
            intrest = a.calInt();
        } catch (NegativeArraySizeException e) {

            System.out.println("Insufficent Balance " + e.getMessage());
            intrest = 0;
        }
    }

}
```



```

package Customer;

public class Account {

    String accType;
    double accNo;
    double minBal;
    double bal = 10000;
    double rate = 0;
    double time = 0;
    double SI = 0;

    public Account(String accType, double accNo, double minBal) {
        this.accType = accType;
        this.accNo = accNo;
        this.minBal = minBal;
    }

    public void displayacc() {
        System.out.println("Account Type: " + accType + "\nAccount No: " + accNo + "\nMinimum Balance: " + minBal);
    }

    public double calInt() throws NegativeArraySizeException {
        if (bal > minBal) {
            throw new NegativeBalanceException("Insufficient Balance");
        } else
            return ((minBal * rate * time) / 100);
    }
}

```

```

1 package Customer;
2
3 public class NegativeBalanceException extends RuntimeException {
4     public NegativeBalanceException(String e) {
5         super("Insufficient Balance");
6     }
7 }

```

```
package Customer;

public class Exceptions {

    public static void main(String[] args) {
        Account a = new Account("Saving", 334, 1000);
        Customer c = new Customer("Yash", "Mumbai", 32, 53455, a);
        c.displayCustomer();
        c.calInt();

    }

}
```

<terminated> Exceptions [Java Application] C:\Users\hp\Downloads\eclipse-jee-2025-09-R-win32-x86\_64\eclipse\plugins\org.eclipse.justj.openjdk.

Name: Yash

Address: Mumbai

ID: 32.0

Phone No: 53455.0

Account Type: Saving

Account No: 334.0

Minimum Balance: 1000.0

Exception in thread "main" Customer.NegativeBalanceException: Insufficient Balance

at Customer.Account.calInt(Account.java:25)

at Customer.Customer.calInt(Customer.java:27)

at Customer.Exceptions.main(Exceptions.java:9)