Exception Handling

Types:

- Checked Exception
- Unchecked Exception

Checked Exception:

1) IOException

```java
import java.io.*;
public class IOExceptionExample {
   public static void main(String[] args) {
      try {
         FileReader file = new FileReader("nonexistentfile.txt");
         BufferedReader fileInput = new BufferedReader(file);
         System.out.println(fileInput.readLine());
         fileInput.close();
      } catch (IOException e) {
         System.out.println("IOException caught: " + e.getMessage());
      }
   }
}
```

2)ClassNotFound Exception

```java
import java.io.*;
public class Main {
   public static void main(String[] args) {
      try {
```

```java
        Class.forName("com.nonexistent.ClassName");
    } catch (ClassNotFoundException e) {
        System.out.println("ClassNotFoundException caught: " +
e.getMessage());
    }
  }
}
```

3)FileNotFoundException

```java
import java.io.*;

public class FileNotFoundExceptionExample {

    public static void main(String[] args) {

        try {

            FileInputStream file = new FileInputStream("nonexistentfile.txt");

        } catch (FileNotFoundException e) {

            System.out.println("FileNotFoundException caught: " + e.getMessage());

        }

    }

}
```

4)SQL Exception

```java
import java.sql.*;

public class SQLExceptionExample {

    public static void main(String[] args) {

        try {

        Connection connection =
DriverManager.getConnection("jdbc:mysql://localhost:3306/test", "root",
"password");

        Statement statement = connection.createStatement();
```

```
        ResultSet resultSet = statement.executeQuery("SELECT * FROM
non_existent_table");

    } catch (SQLException e) {

        System.out.println("SQLException caught: " + e.getMessage());

    }

  }

}
```

Unchecked Exception

1)Arithmetic Exception

```
public class ArithmeticExceptionExample {

    public static void main(String[] args) {

        try {

            int result = 10 / 0;

        } catch (ArithmeticException e) {

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

        }

    }

}
```

2)NullPointer Exception

```
public class NullPointerExceptionExample {

    public static void main(String[] args) {

        try {

            String str = null;

            System.out.println(str.length());
```

```java
        } catch (NullPointerException e) {

            System.out.println("NullPointerException caught: " + e.getMessage());

        }

    }

}
```

3)ArrayIndexOutOfBound Exception

```java
public class ArrayIndexOutOfBoundsExceptionExample {

    public static void main(String[] args) {

        try {

            int[] array = new int[5];

            int number = array[10]; // Accessing out of bounds index

        } catch (ArrayIndexOutOfBoundsException e) {

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

        }

    }

}
```

4)NumberFormatException

```java
public class NumberFormatExceptionExample {

    public static void main(String[] args) {

        try {

            int number = Integer.parseInt("abc"); // Parsing a non-numeric string

        } catch (NumberFormatException e) {

            System.out.println("NumberFormatException caught: " + e.getMessage());
```

```java
        }
    }
}
```

5)StringIndexOutOfBound Exception

```java
public class StringIndexOutOfBoundsExceptionExample {
    public static void main(String[] args) {
        try {
            String str = "Hello, World!";
            char ch = str.charAt(20);
        } catch (StringIndexOutOfBoundsException e) {
            System.out.println("StringIndexOutOfBoundsException caught: " +
e.getMessage());
        }
    }
}
```