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Course: Object oriented programming

GROUP E: Sunday afternoon

TASK: Assignment 1

**Checked Exceptions:**

1. **IOException Example**

public static void handleIOException() {

try {

FileReader reader = new FileReader("nonexistentfile.txt");

} catch (IOException e) {

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

}

}

2. **FileNotFoundException Example**

public static void handleFileNotFoundException() {

try {

FileReader reader = new FileReader("missingfile.txt");

} catch (FileNotFoundException e) {

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

}

}

3. **EOFException Example**

public static void handleEOFException() {

try (ObjectInputStream inputStream = new ObjectInputStream(new FileInputStream("data.dat"))) {

while (true) {

inputStream.readObject();

}

} catch (EOFException e) {

System.out.println("EOFException caught: End of file reached");

} catch (IOException | ClassNotFoundException e) {

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

}

}

4. **SQLException Example**

public static void handleSQLException() {

try {

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

Statement statement = connection.createStatement();

statement.executeQuery("SELECT \* FROM nonexistenttable");

} catch (SQLException e) {

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

}

}

5. **ClassNotFoundException Example**

public static void handleClassNotFoundException() {

try {

Class.forName("nonexistent.ClassName");

} catch (ClassNotFoundException e) {

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

}

}

**Unchecked Exceptions:**

6. **ArithmeticException Example**

public static void handleArithmeticException() {

try {

int result = 10 / 0;

} catch (ArithmeticException e) {

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

}

}

7. **NullPointerException Example**

public static void handleNullPointerException() {

try {

String str = null;

str.length();

} catch (NullPointerException e) {

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

}

}

8. **ArrayIndexOutOfBoundsException Example**

public static void handleArrayIndexOutOfBoundsException() {

try {

int[] array = new int[5];

int value = array[10];

} catch (ArrayIndexOutOfBoundsException e) {

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

}

}

9. **ClassCastException Example**

public static void handleClassCastException() {

try {

Object obj = new Integer(10);

String str = (String) obj;

} catch (ClassCastException e) {

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

}

}

10. **IllegalArgumentException Example**

public static void handleIllegalArgumentException() {

try {

Thread.sleep(-1000);

} catch (IllegalArgumentException e) {

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

} catch (InterruptedException e) {

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

}

}

11. **NumberFormatException Example**

public static void handleNumberFormatException() {

try {

int number = Integer.parseInt("abc");

} catch (NumberFormatException e) {

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

}

}

**Main method to call all examples:**

public static void main(String[] args) {

System.out.println("Checked Exceptions:");

handleIOException();

handleFileNotFoundException();

handleEOFException();

handleSQLException();

handleClassNotFoundException();

System.out.println("\nUnchecked Exceptions:");

handleArithmeticException();

handleNullPointerException();

handleArrayIndexOutOfBoundsException();

handleClassCastException();

handleIllegalArgumentException();

handleNumberFormatException();

}