Q1. . Write a java program to handle Exception using try, catch, finally block while reading input from command line and store to integer array.

```
package exception.com;

import java.util.Scanner;

public class Lab1 {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

int[] numbers = new int[5];

try {

System.out.println("Enter five integers:");

for (int i = 0; i < 5; i++) {

numbers[i] = Integer.parseInt(scanner.nextLine());

}

} catch (NumberFormatException e) {

System.out.println("Invalid input! Please enter integers
only.");

} finally {

scanner.close();

}

System.out.println("Numbers stored in the array:");

for (int i = 0; i < numbers.length; i++) {

System.out.println(numbers[i]);

}

}

}
```

Output :

```
Enter five integers:
23
45
1
70
35
Numbers stored in the array:
23
45
1
70
35
```

Q2. . Write a java program for Method level exception handling, for writing data to file using objects.

```
package exception.com;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.ObjectOutputStream;
public class Data implements java.io.Serializable{
private String name;
private int age;
public Data(String name, int age) {
this.name = name;
```

```
this.age = age;

}

public String getName() {

return name;

}

public int getAge() {

return age;

}

public static void main(String[] args) throws Exception

{

Data data = new Data("Saikumar", 25);

writeDataToFile(data, "d:\\programs\\file2.txt");

}

public static void writeDataToFile(Data data, String filename)

{

try (FileOutputStream fileOutputStream = new
FileOutputStream(filename);

ObjectOutputStream objectOutputStream = new
ObjectOutputStream(fileOutputStream))

{

objectOutputStream.writeObject(data);

System.out.println("Data has been written to the file
successfully.");

} catch (IOException e)

{

System.out.println("An error occurred while writing data to
the file: " + e.getMessage());
```

```
}

}

}
```

Output :
¬í □sr □exception.com.Data· -ùÀ□¯u□ □I □ageL □namet □Ljava/lang/String;xp □t □Saikumar

Q3. . Write a java program to illustrate, the user can check error conditions and call the catch block.

```
package exception.com;

import java.util.Scanner;

public class Catch_excp {

public static void main(String[] args) {

Scanner scanner = new Scanner(System.in);

try {

System.out.print("Enter a positive integer: ");

int num = Integer.parseInt(scanner.nextLine());

if (num <= 0) {

throw new IllegalArgumentException("Invalid input: Number must be positive.");

}

System.out.println("Entered number: " + num);

} catch (NumberFormatException e) {

System.out.println("Invalid input: Please enter a valid integer.");

} catch (IllegalArgumentException e) {
```

```
System.out.println(e.getMessage());

}

scanner.close();

}

}
```

Output :

```
Enter a positive integer: -7

Invalid input: Number must be positive.
```

Q4. Write a java program to illustrate IO exception

```
package exception.com;

import java.io.BufferedReader;

import java.io.FileReader;

import java.io.IOException;

public class IO_excption {

public static void main(String[] args) {

BufferedReader reader = null;

try {

reader = new BufferedReader(new FileReader("input.txt"));

String line;

while ((line = reader.readLine()) != null) {

System.out.println(line);

}

} catch (IOException e) {

System.out.println("An error occurred while reading the file:
" + e.getMessage());
```

```
e.printStackTrace();

} finally {

try {

if (reader != null) {

reader.close();

}

} catch (IOException e) {

System.out.println("An error occurred while closing the file:
" + e.getMessage());

e.printStackTrace();

}

}

}

}
```

Output :

```
An error occurred while reading the file: input.txt (The
system cannot find the file specified)

java.io.FileNotFoundException: input.txt (The system cannot
find the file specified)

at java.base/java.io.FileInputStream.open0(Native Method)

at
java.base/java.io.FileInputStream.open(FileInputStream.java:21
9)

at
java.base/java.io.FileInputStream.<init>(FileInputStream.java:
158)

at
java.base/java.io.FileInputStream.<init>(FileInputStream.java:
112)

at java.base/java.io.FileReader.<init>(FileReader.java:60)
```

```
at
Exception_Handling/exception.com.IO_excption.main(IO excption.
java:11)
```