Name: ID:

1. What would be the output of the program below if user enters '4' and '0' as 2 inputs?   [8]

	Write your output here:
| ```java
import java.util.Scanner;
public class CT4 {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println("Please enter 2 numbers");
        try {
            int a = scan.nextInt();
            int b = scan.nextInt();
            int c = divide(a, b);
            System.out.println("Result:" + c);
        }catch(Exception e) {
            System.out.println("Catch of main method.");
        }
    }

    private static int divide(int a, int b) {
        try {
            int c = a/b;
            return c;
        }catch(NumberFormatException e) {
            System.out.println("Can't divide by 0");
        }finally {
            System.out.println("finally of divide method.");
        }

        return 0;
    }
}
``` | |

2. Observe the code and output below carefully. The program is serializing an object of *Doctor* class, then de-serializing and printing the name, gender and age of the doctor. Why do you think the age displayed as '0' even though we passed '30' during serialization?   [4]

```java
1  package ct4;
2
3  import java.io.*;
4  public class TestSerialization {
5
6⊖     public static void main(String[] args) throws IOException, ClassNotFoundException {
7          String file="doctor.txt";
8          Doctor doc1 = new Doctor("Arif Hasan", "Male", 30);
9          // Serialization
10         ObjectOutputStream oos = new ObjectOutputStream(new FileOutputStream(file));
11         oos.writeObject(doc1);
12         oos.close();
13
14         // De-serialization
15         ObjectInputStream ois = new ObjectInputStream(new FileInputStream(file));
16         Doctor doc2 = (Doctor)ois.readObject();
17         System.out.println(doc2.name + "\t" + doc2.gender + "\t" + doc2.age);
18     }
19 }
```

Output:
<terminated> TestSerialization [Java Application] C
Arif Hasan   Male   0

ANS:

3. Write a simple java code to read from a file and print the content of odd lines in console. So in console you need to print the 1st, 3rd, 5th, 7th ... lines of file. [8]

Name: ID:

1. What would be the output of the program below if user enters '4' and '0' as 2 inputs?   [8]

	Write your output here:
| ```java
import java.util.Scanner;

public class CT4 {
    public static void main(String[] args) {
        Scanner scan = new Scanner(System.in);
        System.out.println("Please enter 2 numbers");
        try {
            int a = scan.nextInt();
            int b = scan.nextInt();
            int c = divide(a, b);
            System.out.println("Result:" + c);
        }catch(Exception e) {
            System.out.println("Catch of main method.");
        }
    }

    private static int divide(int a, int b) {
        try {
            int c = a/b;
            return c;
        }catch(Exception e) {
            System.out.println("Can't divide by 0");
        }finally {
            System.out.println("finally of divide method.");
        }
        return 0;
    }
}
``` | |

2. Observe the code below carefully, it is serializing an object of **Patient** class. The **Patient** class has implemented Serializable interface, but still the program is throwing NotSerializableException. What could cause the exception? Why the object is not serializable?   [4]

```java
1  package ct4;
2
3  import java.io.*;
4  public class TestSerialization {
5
6      public static void main(String[] args) throws IOException {
7          Patient p = new Patient("Patient1", "Male", 30, new Doctor("Arif Hasan"));
8          ObjectOutputStream oos = new ObjectOutputStream(new FileOutputStream("patient.txt"));
9          oos.writeObject(p);
10         oos.close();
11     }
12 }
```

Output:

<terminated> TestSerialization [Java Application] C:\Program Files\Java\jre1.8.0_201\bin\javaw.exe (Jul 17, 2019, 3:54:34 PM)
Exception in thread "main" java.io.NotSerializableException: ct4.Patient
        at java.io.ObjectOutputStream.writeObject0(Unknown Source)
        at java.io.ObjectOutputStream.writeObject(Unknown Source)
        at ct4.TestSerialization.main(TestSerialization.java:9)

ANS:

3. Write a simple java code to read from a file and find out how many lines are there in the file. Also print the line number in console. [8]