

TRINITY INTERNATIONAL COLLEGE

(Tribhuvan University Affiliated)



Lab Report:1.3 Advanced Java Programming

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1. Write a program to demonstrate try-catch-finally.

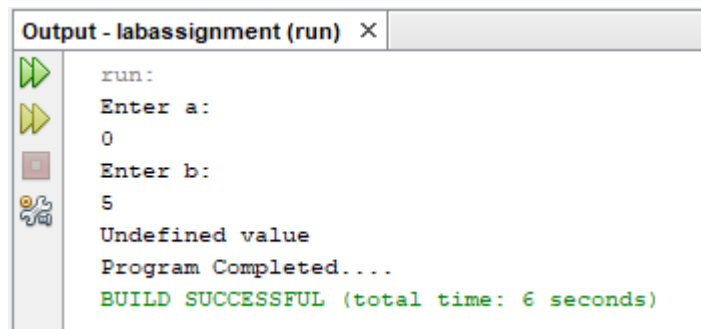
Program:

```
package labassignment;

import java.util.Scanner;

public class Try_Catch {

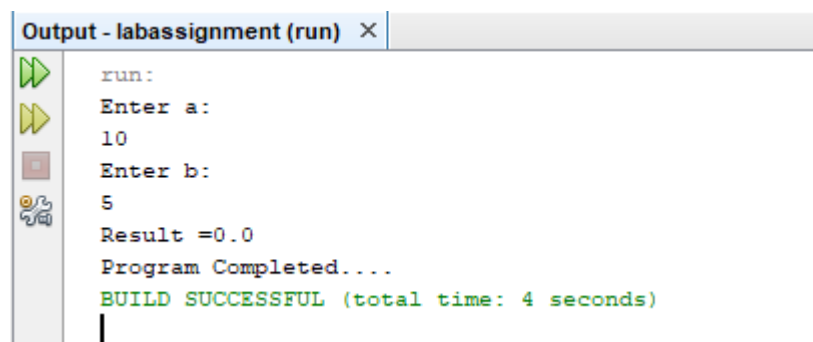
    public static void main(String[] args) {
        Scanner in = new Scanner(System.in);
        System.out.println("Enter a:");
        int a = in.nextInt();
        System.out.println("Enter b:");
        int b = in.nextInt();
        try {
            float result = b/a;
            System.out.println("Result =" + result);
        }
        catch(Exception e){
            System.out.println("Undefined value");
        }
        finally{
            System.out.println("Program Completed....");
        }
    }
}
```



Output - labassignment (run) X

```
run:
Enter a:
0
Enter b:
5
Undefined value
Program Completed....
BUILD SUCCESSFUL (total time: 6 seconds)
```

This screenshot shows the first execution of the program. The user entered '0' for 'a' and '5' for 'b'. Because division by zero is not allowed, the program caught an exception and printed "Undefined value" instead of the result. The program then completed successfully.



Output - labassignment (run) X

```
run:
Enter a:
10
Enter b:
5
Result =0.0
Program Completed....
BUILD SUCCESSFUL (total time: 4 seconds)
```

This screenshot shows the second execution of the program. The user entered '10' for 'a' and '5' for 'b'. Since 'a' is not zero, the division was successful, and the program printed "Result =0.0". The program then completed successfully.

2. Write a program to demonstrate try-finally.

Program:

```
package labassignment;

import java.io.FileWriter;
import java.io.IOException;
import java.io.PrintWriter;
import java.util.Scanner;

public class Try_Finally {

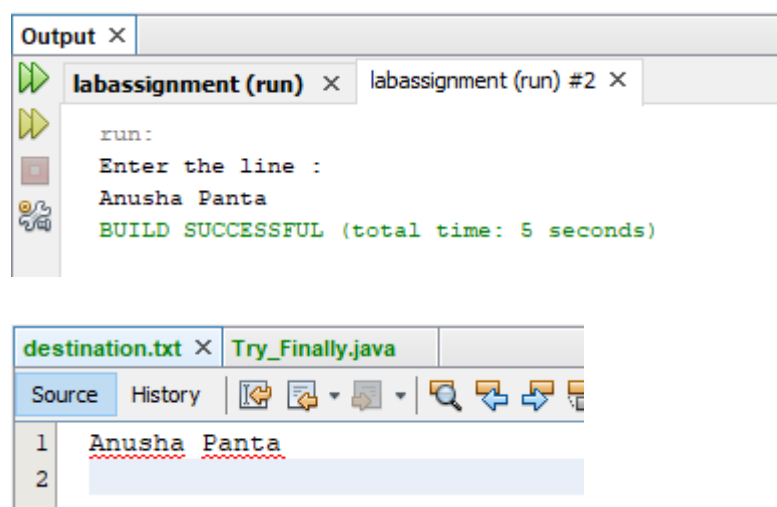
    private static String name;

    public static void main(String[] args) throws IOException {
        PrintWriter out = null;
        try {
            out = new PrintWriter(new FileWriter("destination.txt"));
            Scanner in = new Scanner(System.in);

            System.out.println("Enter the line :");
            String name = in.nextLine();

            out.println(name);

        } finally {
            if (out != null) {
                out.close();
            }
        }
    }
}
```



3. Write a program to create two threads. The first thread should print numbers from 1 to 10 at intervals of 0.5 second and the second thread should print numbers from 11 to 20 at the interval of 1 second.

Program:

```
package labassignment_1_3;

class NumberOne extends Thread {

    @Override
    public void run() {
        for (int i = 1; i <= 10; i++) {
            System.out.println(i);
            try {
                Thread.sleep(500);
            } catch (InterruptedException e) {
            }
        }
    }
}

class NumberEleven extends Thread {

    @Override
    public void run() {
        for (int i = 11; i <= 20; i++) {
            System.out.println(i);
            try {
                Thread.sleep(1000);
            } catch (InterruptedException e) {
            }
        }
    }
}

public class Thread_Odd_Even {

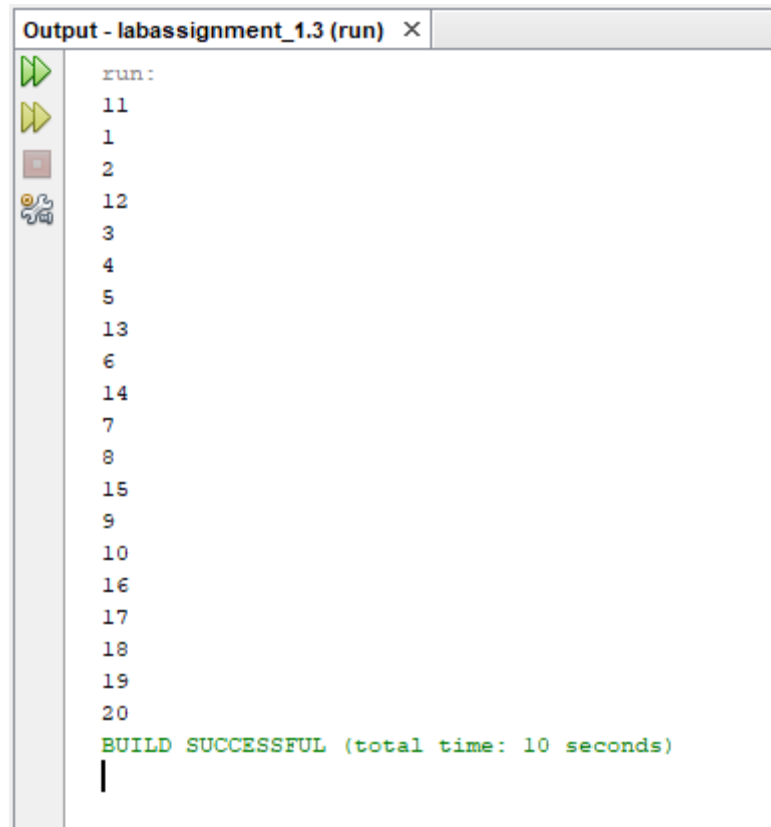
    public static void main(String[] args) throws InterruptedException {
        Thread t1 = new NumberOne();
        Thread t2 = new NumberEleven();

        t1.start();
        t2.start();
    }
}
```

```

    }
}

```



```

Output - labassignment_1.3 (run) x
run:
11
1
2
12
3
4
5
13
6
14
7
8
15
9
10
16
17
18
19
20
BUILD SUCCESSFUL (total time: 10 seconds)

```

4. Write a program to execute multiple threads in priority base.

Program:

```

package labassignment_1_3;

class One_To_Ten extends Thread {

    @Override
    public void run() {
        for (int i = 1; i <= 10; i++) {
            System.out.println(i);
            try {
                Thread.sleep(500);
            } catch (InterruptedException e) {
            }
        }
    }
}

class Eleven_Twenty extends Thread {

```

```

@Override
public void run() {
    for (int i = 11; i <= 20; i++) {
        System.out.println(i);
        try {
            Thread.sleep(500);
        } catch (InterruptedException e) {
        }
    }
}

class Twentyone_Thirty extends Thread {

    @Override
    public void run() {
        for (int i = 21; i <= 30; i++) {
            System.out.println(i);
            try {
                Thread.sleep(500);
            } catch (InterruptedException e) {
            }
        }
    }
}

/**
 *
 * @author user
 */
public class Threading_PriorityBase {

    public static void main(String[] args) throws InterruptedException {
        Thread t1 = new One_To_Ten();
        Thread t2 = new Eleven_Twenty();
        Thread t3 = new Twentyone_Thirty();
        t1.setPriority(Thread.MAX_PRIORITY);
        t2.setPriority(Thread.MIN_PRIORITY);
        t3.setPriority(Thread.NORM_PRIORITY);
        t1.start();
        t2.start();
        t3.start();

    }
}

```

```
Output - labassignment_1.3 (run) ×
run:
11
1
21
2
22
12
3
13
23
4
24
14
5
15
25
6
26
16
7
27
17
8
18
28
9
19
29
30
10
20
BUILD SUCCESSFUL (total time: 5 seconds)
```