Nama : Muhamad Wahyu Saputra

Kelas : XII RPL B

Absen : 34

"Jika Program mengalami error,di java kita sebut dengan istilah exception"

A.Exception

        yaitu sebuah kondisi abnormal(tidak wajar) yg terjadi ketika kita mencoba mengcompile suatu program/perintah

1.try catch

    Latihan 1

```
package LatihanException;


public class TryCatch {

    public static void main(String[] args) {

        try{
            int[] array = new int[1];
            System.out.println(array[1]);
            System.out.println("Baris ini tidak akan dieksekusi karena kode diatas terjadi sebuah exception");
        }catch(ArrayIndexOutOfBoundsException e){
            System.out.println("Terjadi exception karena indeks dipanggil diluar kapasitas array");
        }
        System.out.println("Setelah block trycatch");
    }

}
```

```
run:
Terjadi exception karena indeks dipanggil diluar kapasitas array
Setelah block trycatch
BUILD SUCCESSFUL (total time: 0 seconds)
```

    Latihan 2

```
package LatihanException;
public class TryCatch2 {

    public static void main(String[] args) {
        try{
            int x = args.length; //banyak argumen
            int y = 100 / x;
            int[] arry = {10 , 11};
            y = arry[x];
            System.out.println("Tidak terjadi exception");
        }catch (ArithmeticException e){
            System.out.println("Terjadi exception karena pembagian dengan nol");
        }catch (ArrayIndexOutOfBoundsException e){
            System.out.println("Terjadi exception karena indeks dipanggil diluar kapasitas array");
        }

        System.out.println("Setelah deklarasi blok try catch");
    }
}
```

```
run:
Terjadi exception karena pembagian dengan nol
Setelah deklarasi blok try catch
BUILD SUCCESSFUL (total time: 1 second)
```

2.Throw

```
1    package LatihanException;
2    public class coba_Throw {
3
4        public static void methodLain() {
5            try{
6                throw new ArrayIndexOutOfBoundsException(1);
7            }catch(ArrayIndexOutOfBoundsException e){
8                System.out.println("Penanganan exception dalam method => methodLain()");
9            }
10       }
11       public static void main(String[] args) {
12           try{
13               methodLain();
14           }catch(ArrayIndexOutOfBoundsException e){
15               System.out.println("penanganan exception pada method main()");
16           }
17       }
18
```

```
run:
Penanganan exception dalam method => methodLain()
BUILD SUCCESSFUL (total time: 0 seconds)
```

3.Finally

```
1    package LatihanException;
2    public class DemoFinnaly {
3
4        public static void main(String[] args) {
5            int x = 3;
6            int[] arry = {7,8,9};
7            try{
8                System.out.println(arry[x]);
9                System.out.println("Tidak terjadi exception");
10           }catch(ArrayIndexOutOfBoundsException e){
11               System.out.println("terjadi exception");
12               System.out.println(arry[x-4]);
13           }finally{
14               System.out.println("program selesai:|");
15           }
16       }
17
18   }
```

```
run:
terjadi exception
program selesai:|
Exception in thread "main" java.lang.ArrayIndexOutOfBoundsException: -1
        at LatihanException.DemoFinnaly.main(DemoFinnaly.java:12)
C:\Users\Lenovo\AppData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:53: Java returned: 1
BUILD FAILED (total time: 0 seconds)
```

```
1    package LatihanException;
2    public class DemoFinnaly {
3
4        public static void main(String[] args) {
         int x = 1;
6            int[] arry = {7,8,9};
7            try{
8                System.out.println(arry[x]);
9                System.out.println("Tidak terjadi exception");
10           }catch(ArrayIndexOutOfBoundsException e){
11               System.out.println("terjadi exception");
12               System.out.println(arry[x-4]);
13           }finally{
14               System.out.println("program selesai:|");
15           }
16       }
17
18   }
```

```
Output - Exception (run)  X
run:
8
Tidak terjadi exception
program selesai:|
BUILD SUCCESSFUL (total time: 0 seconds)
```

B. I/O(Input output)

1.DemoStream1

```
1    package LatihanInputOutput;
2
3    import  java.io.*;
4    public class DemoStream1 {
5
6        public static void main(String[] args) {
7            byte[] data = new byte[10];
8            System.out.print("Masukkan data : ");
9            try{
10               System.in.read(data);
11           }catch(IOException e){
12               System.out.print("Terjadi Exception");
13           }
14           System.out.print("Yg anda ketik : ");
15           for (int i=0;i<data.length; i++){
16               System.out.print((char)data[i]);
17           }
18       }
19
```

```
Output - Exception (run)  X
run:
Masukkan data : 2
Yg anda ketik : 2
BUILD SUCCESSFUL (total time: 5 seconds)
```

2.DemoStream2

```java
import java.io.*;
public class DemoStream2 {

    public static void main(String[] args) {
        byte[] data = new byte[10];
        int panjang = 0;
        System.out.print("Masukkan data : ");
        try{
            panjang=System.in.read();
            System.out.print("Yg anda ketik : ");
            System.out.write(data);
            System.out.println("Panjang Karakter : "+panjang);
            System.out.print("index ke-1 sebanyak 3 : ");
            System.out.write(data,1,3);
        }catch(IOException e){
            System.out.print("Terjadi Exception");
        }

    }
```

Output - Exception (run)

```
run:
Masukkan data : 12
Yg anda ketik : Panjang Karakter : 49
index ke-1 sebanyak 3 : BUILD SUCCESSFUL (total time: 4 seconds)
```
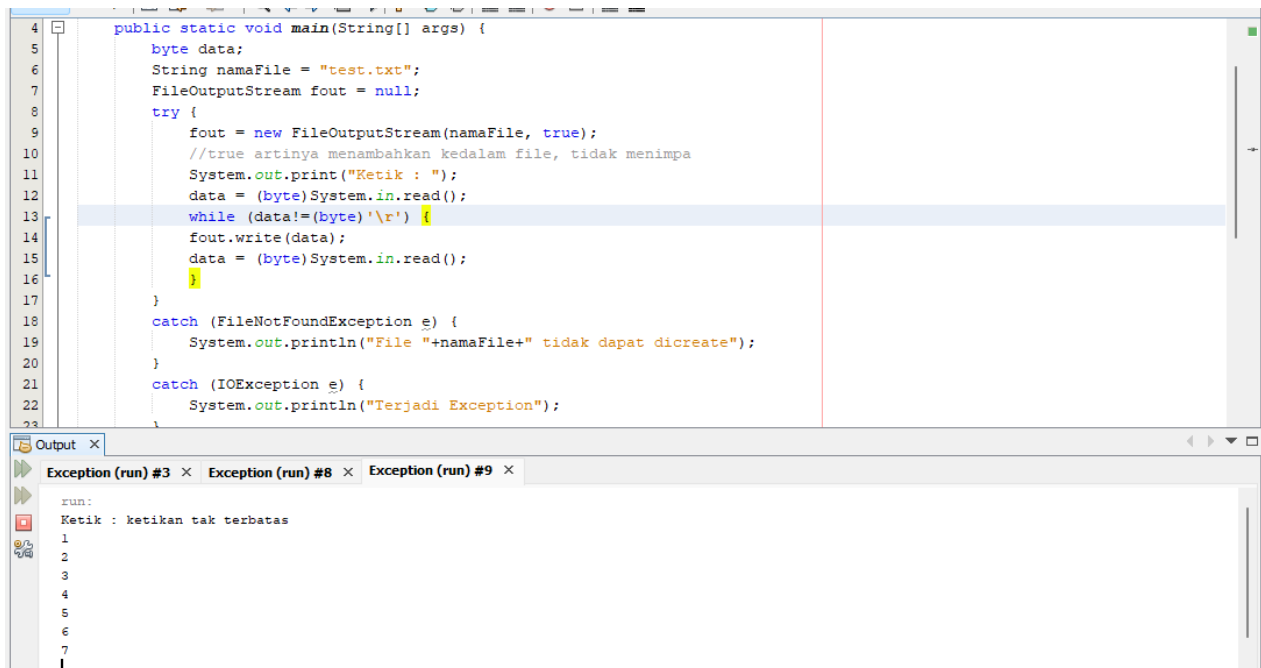
3.DemoStream3

```java
package LatihanInputOutput;

import java.io.*;
public class DemoStream3 {

    public static void main(String[] args) throws IOException {
        char data;
        String str= "";
        BufferedReader buff = new BufferedReader(new InputStreamReader(System.in));
        System.out.print("Ketik : ");
        data = (char) buff.read();
        while (data!='\r'){
            str+=data;
            data = (char) buff.read();
        }
        System.out.println("Yg diketik : "+str);
        System.out.println("PROGRAM SELESAI!");
    }
```

Output - Exception (run) #3

```
run:
Ketik : perkenalkan nama saya wahyu
saya berasal dari desa pandean
'\r'
1
2
3
perulangan unlimited
```
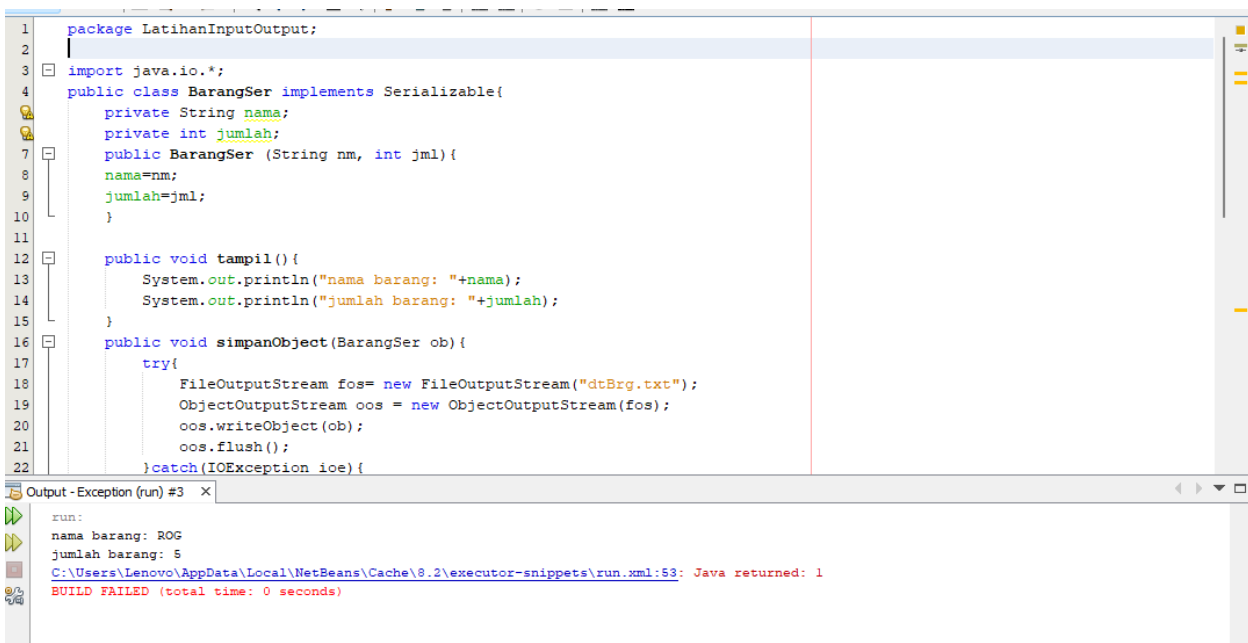
4. .DemoStream4

```java
public static void main(String[] args) {
    byte data;
    String namaFile = "test.txt";
    FileOutputStream fout = null;
    try {
        fout = new FileOutputStream(namaFile, true);
        //true artinya menambahkan kedalam file, tidak menimpa
        System.out.print("Ketik : ");
        data = (byte)System.in.read();
        while (data!=(byte)'\r') {
            fout.write(data);
            data = (byte)System.in.read();
        }
    }
    catch (FileNotFoundException e) {
        System.out.println("File "+namaFile+" tidak dapat dicreate");
    }
    catch (IOException e) {
        System.out.println("Terjadi Exception");
    }
```

Output ×

Exception (run) #3 ×   Exception (run) #8 ×   Exception (run) #9 ×

```
run:
Ketik : ketikan tak terbatas
1
2
3
4
5
6
7
```

BARANGSER

```java
package LatihanInputOutput;

import java.io.*;
public class BarangSer implements Serializable{
    private String nama;
    private int jumlah;
    public BarangSer (String nm, int jml){
    nama=nm;
    jumlah=jml;
    }

    public void tampil(){
        System.out.println("nama barang: "+nama);
        System.out.println("jumlah barang: "+jumlah);
    }
    public void simpanObject(BarangSer ob){
        try{
            FileOutputStream fos= new FileOutputStream("dtBrg.txt");
            ObjectOutputStream oos = new ObjectOutputStream(fos);
            oos.writeObject(ob);
            oos.flush();
        }catch(IOException ioe){
```

Output - Exception (run) #3 ×

```
run:
nama barang: ROG
jumlah barang: 5
C:\Users\Lenovo\AppData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:53: Java returned: 1
BUILD FAILED (total time: 0 seconds)
```

BARANGEX

```java
package LatihanInputOutput;

import java.io.*;
public class BarangEx implements Externalizable{
    private String nama;
    private int jumlah;

    public BarangEx(){ //konstruktor 1
    }

    public BarangEx(String nm, int jml){ //konstruktor2
        nama=nm;
        jumlah=jml;
    }
    public void writeExternal(ObjectOutput out) throws IOException{
        out.writeObject(nama); //string adalah tipe data referensi
        out.writeInt(jumlah);
    }

    public void readExternal(ObjectInput in) throws IOException,
    ClassNotFoundException{
        this.nama = (String) in.readObject();
```

Output - Exception (run) #3

```
run:
data barang: ROG
jumlah barang: 6
BUILD SUCCESSFUL (total time: 0 seconds)
```

===
=============()===()=================
 ==-------------===============================
--(-----------------------)---