Exception handing

Exception handing :- **It is use to control runtime exception.**

Error Basically three types.

1. **Runtime error**
2. **Compile time error**
3. **Exception error**

Note:-

Runtime and compile time error generated by Programmer.

And Exception error generated by User.

To control exception java provides three blocks and two keywords.

Blocks

1. **Try { }**
2. **Catch { }**
3. **Finally { }**

Keywords

1. **throw**
2. **throws**

Syntax:-

```
try
{
……..
…….
}
```

```
catch(exception class object)
{
……..
…….
}
```

Java also provides some exception class.

1. Numberformateexception
2. Arthmeticexception
3. Erray
4. IOexception

Example:-

```
class mohan
{
public static void main(String arg[])
{
try
{
int a,b,c;
java.util.Scanner x=new java.util.Scanner(System.in);
System.out.print("Enter two number");
a=x.nextInt();
b=x.nextInt();
c=a+b;
```

```
System.out.print("sum is "+c);
}
catch(Exception e)
{
        System.out.print("error "+e);
}
System.out.print("\nEnd of program.");
}
}
```

Output:-

```
Enter two number 2     //first time run
4
Sum is 6
End of program.
Enter two number 2     //second time run
G
Error java.util.InputMismatchException
End of program.
```

Data input stream:- **It is also use to input String value throw keyboard at run time.**

Import java.IO.x;

Single try with multiple catch:-

Example:-

```
class mohan
{
public static void main(String arg[])
{
try
{
int a,b,c;
java.util.Scanner x=new java.util.Scanner(System.in);
System.out.print("Enter two number");
a=x.nextInt();
b=x.nextInt();
c=a/b;
System.out.print("divide is "+c);
}
catch(ArithmeticException e)
{
        System.out.print("error "+e);
}

catch(Exception e)
{
        System.out.print("error "+e);
```

```
}
System.out.print("End of program");
}
}
```

Output:-

```
Enter two number 4     //first time run
2
Divide 2
End of program.
Enter two number 2     //second time run
G
Error java.util.InputMismatchException
End of program.
Enter two number 2     //third time run
0
Error java.util.ArthematicException  :/ by zero
End of program.
```

Nexted try or nexted catch:-

Example:-

```
import java.io.*;
class mohan
{
public static void main(String arg[])
{
try
```

```
{
int a,b,c;
DataInputStream x=new DataInputStream(System.in);
System.out.print("Enter two number");
a=Integer.parseInt(x.readLine());
b=Integer.parseInt(x.readLine());
try
{
c=a/b;
System.out.print("divide is "+c);
}
catch(ArithmeticException e)
{
        System.out.print("error "+e);
}
}
catch(IOException e)
{
        System.out.print("error "+e);
}
catch(Exception e)
{
```

```
            System.out.print("error "+e);
        }
        System.out.print("End of program");
        }
        }
```

Output:-

```
Enter two number 4     //first time run
2
Divide 2
End of program.
Enter two number 2     //second time run
G
Error java.util.InputMismatchException
End of program.
Enter two number 2     //third time run
0
Error java.util.ArthematicException  :/ by zero
End of program.
```

Use Boolean keyword:-

Example:-

```
        class boolen
        {
        public static void main(String arg[])
        {
```

```
        boolean t=true;
        do
        {
try
{
int a,b,c;
java.util.Scanner x=new
java.util.Scanner(System.in);
System.out.print("\nEnter two number");
a=x.nextInt();
b=x.nextInt();
c=a/b;
System.out.print("divide is "+c);
t=false;
}
catch(ArithmeticException e)
{
        System.out.print("error "+e);
}
}
```

```
while(t);
System.out.print("End of program");
}
}
```

Output:-

```
Enter two number 8
0
Error.java.lang.ArthimeticException: / by zero
Enter two number 8
4
2
End pf program
```

Use finally keyword:-

Example:-

```
class mohan
{
public static void main(String arg[])
{
try
{
int a,b,c;
```

```
java.util.Scanner x=new java.util.Scanner(System.in);
System.out.print("Enter two number");
a=x.nextInt();
b=x.nextInt();
c=a/b;
System.out.print("divide is "+c);
}
catch(ArithmeticException e)
{
        System.out.print("error "+e);
}
finally      //it is execute in any class
{
System.out.print("End of program");
}
}
}
```

Output:-

```
Enter two number 4     //first time run
2
Divide 2
End of program.
Enter two number 2     //second time run
G
Error java.util.InputMismatchException
End of program.
Enter two number 2     //third time run
0
Error java.util.ArthematicException  :/ by zero
End of program.
```

throw keyword:-

Example:-

```
class boolen
{
public static void div()
        throws NumberFormatException
{
int a,b,c;
java.util.Scanner x=new java.util.Scanner(System.in);
System.out.print("Enter two number");
a=x.nextInt();
b=x.nextInt();
c=a/b;
```

```
System.out.print("divide is "+c);
}
public static void main(String arg[])
{
        try
        {
                div();
        }
catch(ArithmeticException e)
{
        System.out.print("error "+e);
}
catch(NumberFormatException e)
{
        System.out.print("error "+e);
}
}
}
```

Output:-

Enter two number 8

0

Error.java.lang.ArthimeticException: / by zero