

Practical 3 : Exceptions

- a. Write a program to raise built-in exception and raise them as per the requirements.

The screenshot shows an IDE with a file named `Divide.java`. The code is as follows:

```
9  * @author
10  */
11  import java.io.*;
12  public class Divide {
13
14      public static void main(String[] args) throws IOException {
15          int a,b,res;
16          BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
17          String str;
18          System.out.println("Enter two numbers:");
19          str=br.readLine();
20          a=Integer.parseInt(str);
21          str=br.readLine();
22          b=Integer.parseInt(str);
23          res=a/b;
24          System.out.println("The Quotient="+res);
25      }
26  }
```

The output window shows the following execution details:

```
--- compiler:3.11.0:compile (default-compile) @ Divide ---
Changes detected - recompiling the module! :source
Compiling 1 source file with javac [debug target 21] to target\classes

--- exec:3.1.0:exec (default-cli) @ Divide ---
Enter two numbers:
4
0
Exception in thread "main" java.lang.ArithmeticException: / by zero
    at com.mycompany.divide.Divide.main(Divide.java:23)
Command execution failed.
```

- b. Write a program to define user defined exceptions and raise them as per the requirements.

```

    */
    import java.io.*;
    public class Divide12{

        public static void main(String[] args) throws IOException {
            int a=0,b=0,res;
            BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
            String str;
            System.out.println("Enter two numbers:");
            try{
                str=br.readLine();
                a=Integer.parseInt(str);
                str=br.readLine();
                b=Integer.parseInt(str);
            }
            try{
                res=a/b;
                System.out.println("The Quotient="+res);
            }
            catch(ArithmeticException ae){
                System.out.println("Exception has occurred. You have entered the divisor as zero");
            }
            catch(NumberFormatException ne){
                System.out.println("Invalid Number");
            }
        }
    }
}

out - Run (Divide12) x
--- exec:3.1.0:exec (default-cli) @ Divide12 ---
Enter two numbers:
4
0
Exception has occurred. You have entered the divisor as zero
-----

] --- exec:3.1.0:exec (default-cli) @ Divide12 ---
Enter two numbers:
4
a
- Invalid Number

] --- exec:3.1.0:exec (default-cli) @ Divide12 ---
Enter two numbers:
5
2
- The Quotient=2
-----
```