**Access specifiers and package**

**Exception handling**

Java program

Compile program run the program

javac Demo.java java Demo

compile time error run time error

syntax error

run time

Error Exception

Error and Exception both are pre defined classes part of lang package. by default every java program import lang package.

Error: the error which generated at time which we can’t handle it. JVM crash or software/hardware issue.

Exception : Exception is a type of error which we can handle it. Divide by zero.

Object

Throwable

Error Exception

Checked exception un checked exception

RuntimeException

IOException ArrayIndexOutOfBoudsException

FileNotFoundException ArithmeticException

SQLException NumberFormatException

NullPointerException

To handle both type of exception in java we can use 5 keyword

1. Try : the code which makes problem we need to keep in try block
2. catch : this block execute only if any exception generate no exception no catch block.
3. finally : finally block execute 100% sure any exception generate or not.

try

catch catch catch catch finally

catch finally catch

Finally

1. throw
2. throws

Multi threading :

Program :set of instruction to perform a specific task.

Processor : processor is responsible to execute the code

Process : time taken to execute the code.

Thread : Thread is light weighted process. Inside a process in java always one thread execute.

Multi tasking using process base

Multi tasking using thread base

We can create user defined thread using

1. Extends Thread class
2. Implements Runnable interface