Package and access specifiers

package is a collection of classes and interfaces which have same name but different functionality.

Package is like a directory or folder.

Package are divided into two types.

User defined package

education

school

Attendance

college

Attendance

Pre defined package

Java provided totally 4 types of access specifiers.

Using access specifier we can assign the visibility or accessibility for class, method and variable within a same package or other packages.

1. private : scope : within a same class.
   : using with what : we can use with instance variable, static variable, static method , non static method, and constructor but we can't use with class as well as local variable.
2. default (nothing) : scope : same package.
   : using with what : we can use with all.
3. protected : scope : within same package other package if it is sub class.
   using with what : we can use with instance variable, static variable, static method , non static method, and constructor but we can't use with class as well as local variable.
4. public : scope : within same package as well as other package.
   using with what : we can use with instance variable, static variable, static method , non static method, constructor as well as class but we can't use with local variable.

Exception handling

Exception : it is a type of error which generate when unexpected or abnormal condition occurs during the execution of a program is known as exception. Using java we can handle unexpected things that is known as exception handling.

java

javac	java
java compiler	java interpreter
compile time error	run time error
syntax error or	
typo error	

run time error

Error Exception

Error and Exception both are pre defined classes in java part of lang package.

By default java imported lang package.

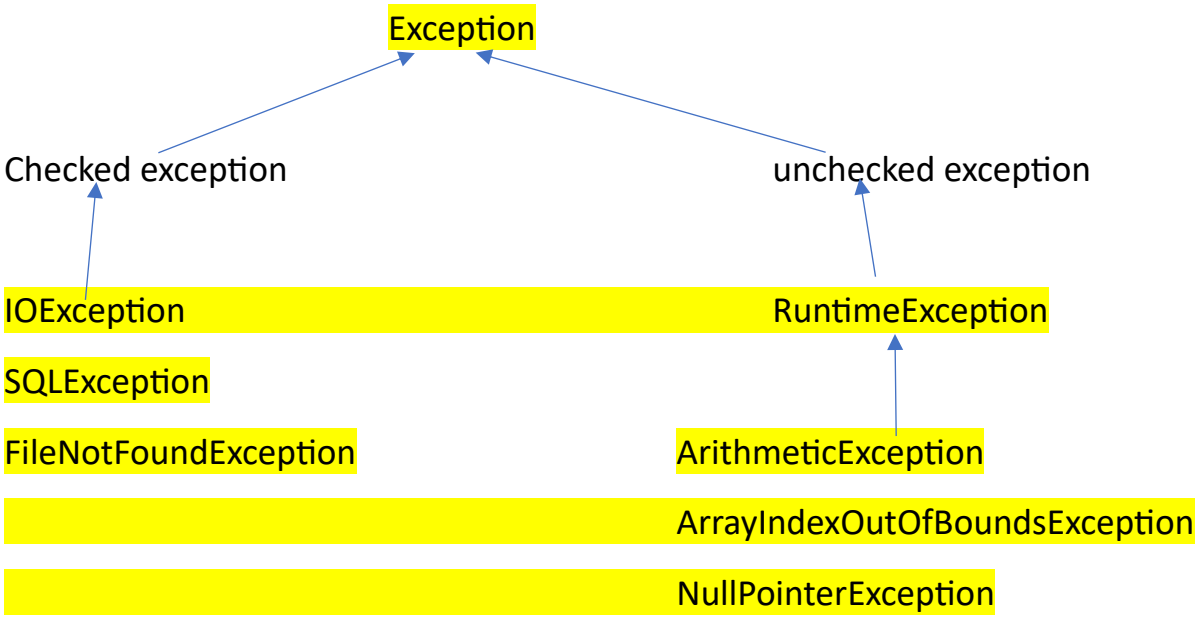
Error : it is a type of run error which generate at run time which we can't handle it.

JVM crash, software or hardware issue or out of memory.

Exception : it is a type run time error which generate at run time which we can handle it.

Divided by Zero or array index out of bound.

10/0;



To handle both type of exception java provided 5 keywords.

1. try
2. catch
3. finally
4. throw
5. throws

to handle unchecked exception

using try and catch block

syntax

try {

}catch(Exception e) {

}

try with multiple catch block

try with single catch block is ready to handle any type of exception as well as if any exception generate we need to do common or generic logic then we can use try with single catch block.

But depending upon the exception if we want to do different task then we need to use try with multiple catch block.

```
try{

}catch(ArtithmeticException e) {

}catch(ArrayIndexOutOfBoundsException e) {

}
```

Finally block finally is a type of block which will execute 100% sure if any exception generate or not.

Catch block execute only if any exception generate.

try

catch	catch	catch	catch	finally
	catch	finally	catch	
			finally	

to connect mysql database using java using JDBC.

```
try {
        open the connection of database
do the task like store, delete, update and retrieve

}catch(Exception e) {

}finally {
        Close the connection or resources
}
```

throw and throws