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Nineth Day; Tenth Day

Topics to be covered:

Exception Handeling
- finally block.
- Try & Catch block
- throw vs throws

Exception Handeling

Exception handeling in Java is a way to deal with errors or problems that might occur while running a programm.

↳ It helps in preventing the programm from crashing and allows you to handle those errors gracefully.

☆ Real life Example

Imagine you're baking a cake using a recipe, while following the recipe, there might be steps where things could go wrong.

→ In this scenerio, you might accidentally drop the eggs on the floor or burn the cake in the oven.

Exception handeling is like having a backup plan for these situations.

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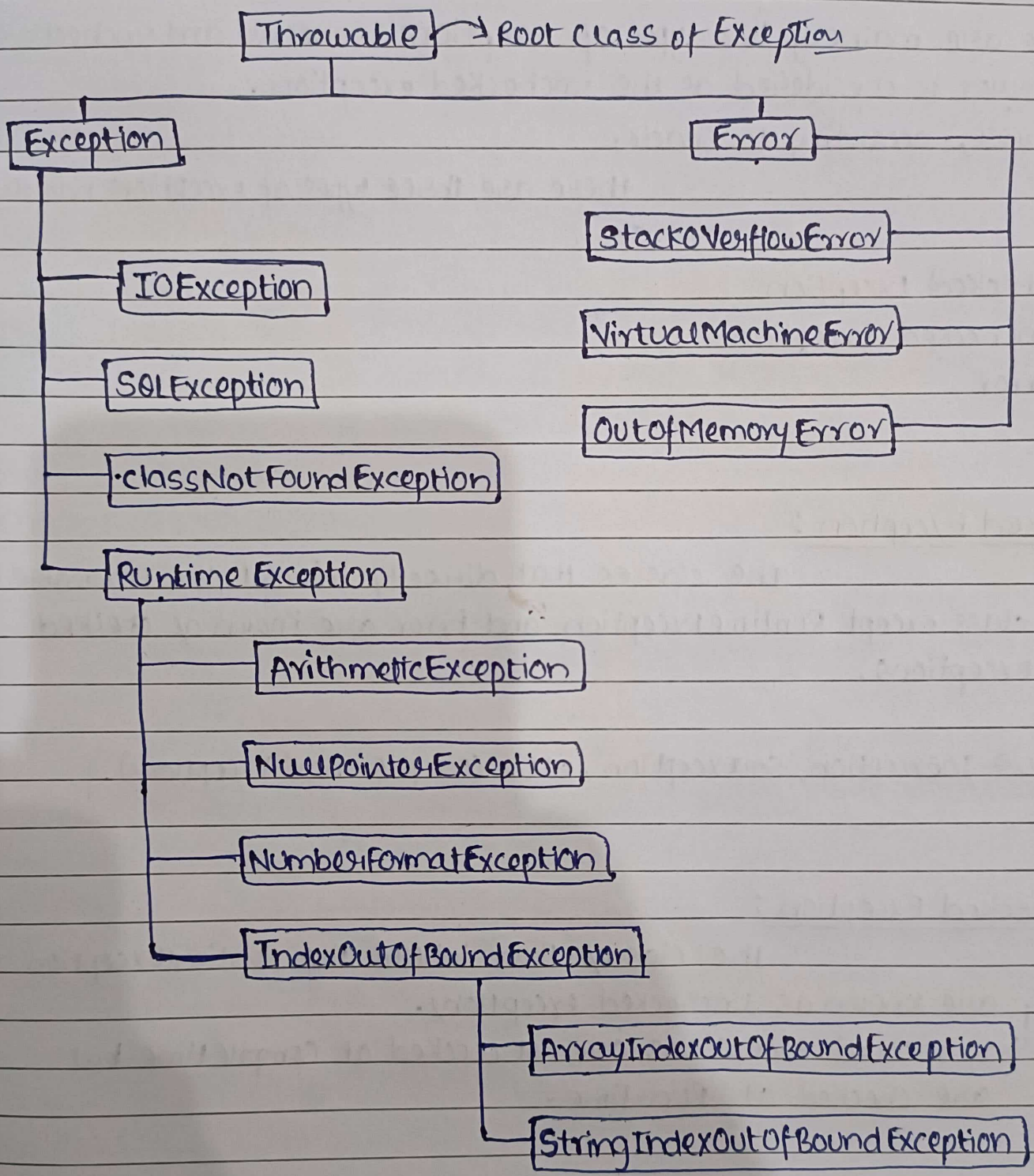
Hierarchy of Java Exception



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Types of Exceptions

There are mainely two types of exceptions : checked and unchecked. An error is considered as the unchecked exception.
However, according to Oracle,
there are three types of exception's namely.

① Checked Exception
② Unchecked Exception
③ Error

> Checked Exception :

The classes that directly inherit the Throwable class except RuntimeException and Error are known as checked exceptions.

for ex. ⇒ IOException, SQLException, etc. (compile-time Exceptions).

> Unchecked Exception :

The classes that inherit the RuntimeException are known as unchecked exceptions.
↳ unchecked exceptions are not checked at compile time but are checked at Run-time.

for Ex⇒ ArithmeticException, NullPointerException, ArrayIndexOutOfBound, etc.

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Error :

Error is ~~rec~~ irrecoverable.

for ex. ⇒ OutOfMemory ; VirtualMachine; AssertionError, etc.

Java Exception keywords :

- **try** : used to specify a block where we should place an Exception code. means we can not use try block alone. this block must be followed by catch and b finally.

- **Catch** : If an exception occurs within the try block, it is caught by a catch block. It's like
  ↳ Someone ready to catch the eggs if they fall (Referencing from life example)

  The catch block contains code to handle the exception, such as displaying an error message or taking corrective actions.

- **finally** :

  We can optionally have a finally block that contains code that will always run whether an exception occurs or not.

  ↳ It's like cleaning up the kitchen and making sure everything is tidy, regardless of the banking outcome.

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- **throw :** This 'throw' keyword is used to throw an exception.

- **throws :** The "throws" keyword is used to declare exceptions. It specifies that there may occur an exception in the method. It doesn't throw an exception.
  - ↳ It's always used with method signature.

Exception Indexes

- Try-Catch Block
- Multiple Catch Block
- Nested Try
- Finally Block
- Throw keyword
- Exception Propagation
- Throws keyword
- Throw vs Throws
- Final vs Finally vs Finalize
- Exception Handling with Method Overriding
- Custom Exceptions.