

1. this Keyword

this keyword is used to refer to the **current class object**.

It is mainly used for:

- Differentiating between **instance/global/class level variables** and **local variables** (parameter names).
- Calling other constructors of the same class.
- Calling current class methods.

2. super Keyword

super keyword is used to refer to the **parent (super) class**.

It is mainly used for:

- Accessing parent class variables
- Calling parent class methods
- Calling parent class constructor

Exception Handling

Exception handling is a mechanism to handle runtime error such `classnotfoundexception`, `webdriverexception`, `IOException`, `Nullpointerexception`

Advantage of exception handling

The core advantage of exception handling is to maintain the normal flow of the application. An exception normally disrupts the normal flow of the application; that is why we need to handle exceptions.

Example :

Statement 1

Statement 2

Statement 3 //Exception occurs

Statement 4

Statement 5

Suppose there are 5 statements in a Java program and an exception occurs at statement 3; the rest of the code will not be executed, i.e., statements 3 to 5 will not be executed. However, when we perform exception handling, the rest of the statements will be executed. That's why we use exception handling in Java.

2 Types of exception

There are mainly two types of exceptions: checked and unchecked.

1. Checked exceptions
2. `InterruptException`
3. `FileNotFoundException`
4. `IOException`

2. Un-checked exceptions

1. ArithmeticException
2. NullPointerException
3. NumberFormatException
4. ArrayIndexOutOfBoundsException
5. ClassCastException
6. StringOutOfBoundsException

Keyword Description

try -- The "try" keyword is used to specify a block where we should place an exception code.

It means we can't use try block alone. The try block must be followed by either catch or finally.

catch -- The "catch" block is used to handle the exception. It must be preceded by try block which means

we can't use catch block alone. It can be followed by finally block later.

finally -- The "finally" block is used to execute the necessary code of the program. It is executed whether an exception is handled or not.

throw -- The "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 is always used with method signature.

Difference b/w throw and throws

Feature	throw	throws
Definition	Used to explicitly throw an exception inside method/block	Used in method signature to declare exceptions that may occur
Where it is used?	Inside a method or block	With method signature
Purpose	To manually throw a single exception	To declare one or more exceptions that the method may throw
Multiple Exceptions?	Cannot throw multiple exceptions at once	Can declare multiple exceptions (e.g., throws IOException, SQLException)
Who handles it?	Handled by surrounding try-catch block	Caller of the method must handle it using try-catch or declare further
Type of Exception	Used for both checked & unchecked exceptions	Mostly used for checked exceptions

Execution	Occurs during runtime	Checked at compile time
Example	<pre>throw new ArithmeticException("Error");</pre>	<pre>void readfile() throws IOException {}</pre>