Explain the different types of operators in Java.

There are several operator within java and they serve different purpose.

1. Arithmetic operator:

These operator are used to perform basic calculations.

* Addition(+)
* Subtraction(-)
* Multiplication(\*)
* Division(/)
* Modulus(%)

Comparison operators:

These operators are used to compare two values.

* **==** (Equal to)
* **!=** (Not equal to)
* **>** (Greater than)
* **<** (Less than
* **>=** (Greater than or equal to)
* **<=** (Less than or equal to):

**Logical Operators**

These operators are used to perform logical operations and combine multiple conditions.

* **&&** (Logical AND)
* **||** (Logical OR)
* **!** (Logical NOT)

**Assignment Operators**

These operators are used to assign values to variables.

* **=** (Simple Assignment)
* **+=** (Add and Assign)
* **-=** (Subtract and Assign)
* **\*=** (Multiply and Assign)
* **/=** (Divide and Assign)
* **%=** (Modulus and Assign)

**Type casting:**

Type casting is the process of converting a value from one data type to another. This is especially useful when you need to work with different types of data in your program. Java provides two types of type casting:

1. **Implicit Casting** (**Widening Casting**)
2. **Explicit Casting** (**Narrowing Casting**)