Java Type Casting

Type casting is when you assign a value of one primitive data type to another type.

In Java, there are two types of casting:

Widening Casting (automatically) - converting a smaller type to a larger type size

byte -> short -> char -> int -> long -> float -> double

Narrowing Casting (manually) - converting a larger type to a smaller size type

double -> float -> long -> int -> char -> short -> byte

Widening Casting

Widening casting is done automatically when passing a smaller size type to a larger size type:

Example

int iNumber = 100;

double dNumber = iNumber; // Automatic casting: int to double

System.out.println(iNumber); // Outputs 100

System.out.println(dNumber); // Outputs 100

Narrowing Casting

Narrowing casting must be done manually by placing the type in parentheses in front of the value:

Example

double dNumber = 100.386795412;

int iNumber = (int) dNumber; // Manual casting: double to int

System.out.println(dNumber); // Outputs 100.386795412

System.out.println(iNumber); // Outputs 100

Type Conversion Methods

It is also possible to convert data types explicitly by using built-in methods, such as:

Integer.parseInt()
Integer.toString()
Float.parseFloat
Float.toString()
Double.parseDouble()
Double.toString()
Boolean.parseBoolean
Boolean.toString()

Example

int iNumber = 100;

double dNumber = 100.386795412;

bool b_value = true;

System.out.println(Integer.toString(iNumber)); // convert int to String

System.out.println(Integer.parseInt(Integer.toString(iNumber))); // convert String to int

System.out.println(Double.toString(dNumber)); // convert double to String

System.out.println(Double.parseDouble(Double.toString(dNumber))); // convert String to double

System.out.println(Boolean.toString(b_value)); // convert boolean to String

System.out.println(Boolean.parseBoolean(Boolean.toString(b_value))); // convert String to boolean

System.out.println(Integer.toString(iNumber) + iNumber);

System.out.println(Integer.toString(iNumber) + dNumber);

// System.out.println(Double.parseDouble(dNumber) + Integer.parseInt(iNumber));

System.out.println(iNumber + dNumber);