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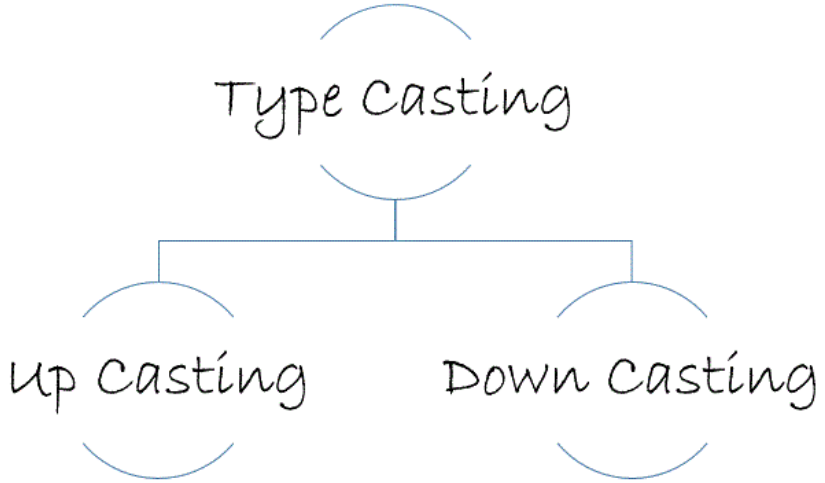
Module 2:
Type Casting In JAVA

Type Casting Or Type Conversion

- **Typecasting**, or **type** conversion, is a method of changing an entity from one data **type** to another.
- There are two types of type casting:
  - Implicit Type Conversion or Widening Type Casting
  - Explicit Type Conversion or Narrowing Type Casting



Implicit Type Casting

➢ Implicit Type Casting:

- Converting a lower data type into a higher one is called **implicit** type conversion. It is also known as **widening type casting** or **casting down**. It is done automatically. It is safe because there is no chance to lose data. It takes place when:
  - Both data types must be compatible with each other.
  - The target type must be larger than the source type.
  - For example, the conversion between numeric data type to char or Boolean is not done automatically. Also, the char and Boolean data types are not compatible with each other.
  - byte -> short -> char -> int -> long -> float -> double

Example Of Widening Type Casting

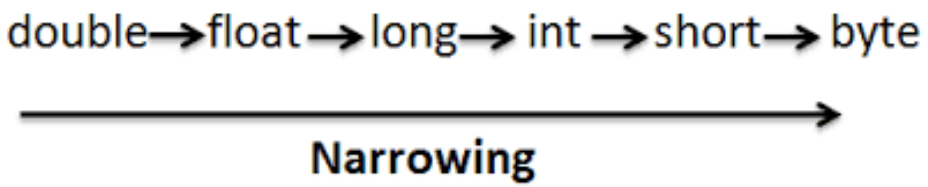
```
public class Main {
  public static void main(String[] args) {
    int myInt = 9;
    double myDouble = myInt; // Automatic casting: int to double

    System.out.println(myInt);      // Outputs 9
    System.out.println(myDouble);   // Outputs 9.0
  }
}
```

Explicit Type Casting

➢Explicit Type Casting:

- Converting a higher data type into a lower one is called **narrowing** type casting. It is also known as **narrowing type casting** or **casting up**.
- It is done manually by the programmer. If we do not perform casting then the compiler reports a compile-time error.
- **double** -> **float** -> **long** -> **int** -> **char** -> **short** -> **byte**

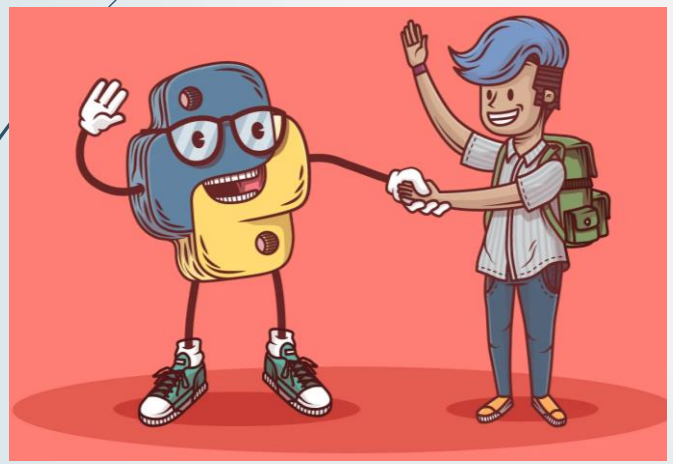


Example Of NarrowingType Casting

```
public class Main {
  public static void main(String[] args) {
    double myDouble = 9.78;
    int myInt = (int) myDouble; // Manual casting: double to int

    System.out.println(myDouble);   // Outputs 9.78
    System.out.println(myInt);      // Outputs 9
  }
}
```

Happy Learning!!



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