Type Casting

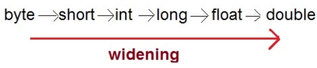
Assigning a value of one type to a variable of another type is known as **Type Casting**.

Example :

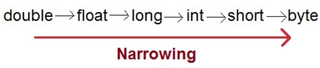
```
int x = 10;
byte y = (byte)x;
```

In Java, type casting is classified into two types,

- Widening Casting(Implicit)



- Narrowing Casting(Explicitly done)



Widening or Automatic type converion

Automatic Type casting take place when,

- the two types are compatible
- the target type is larger than the source type

Example :

```
public class Test
{
    public static void main(String[] args)
    {
      int i = 100;
      long l = i;  //no explicit type casting required
      float f = l;  //no explicit type casting required
      System.out.println("Int value "+i);
      System.out.println("Long value "+l);
      System.out.println("Float value "+f);
    }
}
```

Output:

```
Int value 100
Long value 100
Float value 100.0
```

Narrowing or Explicit type conversion

When you are assigning a larger type value to a variable of smaller type, then you need to perform explicit type casting.

Example :

```
public class Test
{
    public static void main(String[] args)
    {
      double d = 100.04;
      long l = (long)d;  //explicit type casting required
      int i = (int)l;   //explicit type casting required

      System.out.println("Double value "+d);
      System.out.println("Long value "+l);
      System.out.println("Int value "+i);
    }
}
```

Output:

```
Double value 100.04
Long value 100
Int value 100
```

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