

Java for beginners

Wrapper classes



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Agenda

- ① Why Java is not completely OOP language?
- ② Wrapper classes
- ③ Primitive - Wrapper
- ④ Auto boxing & Unboxing.
- ⑤ Methods of wrapper classes

Why Java is not completely OOP language?

Java is an object oriented programming language and as said everything in Java is an object.



But What about
the primitive types ?

primitive types are sort of left out in the world of objects, that is they cannot participate in the object activities.

Wrapper Classes

As a solution to this problem, Java allows you to include the primitives in the family of objects by using what are called Wrapper Classes.

There is a wrapper class for every primitive data type in Java.

...Wrapper Classes

This class encapsulates a single value for the primitive data type.

Primitive Type

boolean

byte

char

short

int

long

float

double

Wrapper Class

Boolean

Byte

Character

Short

Integer

Long

Float

Double

Wrapper classes are used to convert primitive types into object and vice-versa.

Autoboxing

Converting primitive to object

Unboxing

Object to primitive

Auto boxing

int $x = 20;$

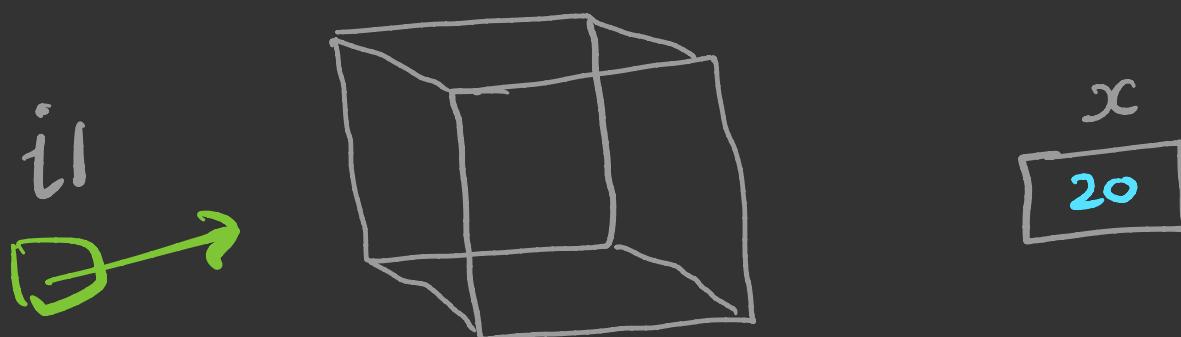
Integer $i1 = x;$ \leftarrow Auto boxing

or

int $x = 20;$

Integer $i1 = \text{Integer.valueOf}(x);$

Explicit conversion



Explicit Conversion

```
int x = 20;
```

```
Integer ii = Integer.valueOf(x);
```

or

```
int x = 20;
```

```
Integer ii = new Integer(x);
```

valueOf()

it is a static method.

it return object reference of
relative wrapper class

Unboxing

Integer il = new Integer(20);

int a = il.intValue(); \leftarrow Explicit conversion

or

int a = il; \leftarrow unboxing

xxxValue()

- Instance method
- xxx is any primitive type
- returns corresponding primitive type.

parseXxx()

- it is a static method
- Xxx is any primitive type
- It returns xxx type value.

```
int x = Integer.parseInt("345");
float y = Float.parseFloat("35.56");
```