# How are parameters passed in Java?

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In Java, parameters are always passed by value. For example, following program prints i = 10, j = 20.

```
//  Test.java
class Test {
    // swap() doesn't swap i and j
    public static void swap(Integer i, Integer j) {
        Integer temp = new Integer(i);
        i = j;
        j = temp;
    }
    public static void main(String[] args) {
        Integer i = new Integer(10);
        Integer j = new Integer(20);
        swap(i, j);
        System.out.println("i = " + i + ", j = " + j);
    }
}
```

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```
 /* public static void main(String[] args) {
    String a[] = {"hello", "world"};
    swap(a);
    System.out.println(a[0] + " " + a[1]);
}
static void swap(String[] a) {
    String t = a[0];
    a[0] = a[1];
    a[1] = t;
}) */
```

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all wrapper classes are immutable so you can not swap using wrappe

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But when we pass objects,they are passed by reference.Please correct me if

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Java always passes the references by value. However, you can swap
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```
 /* public static void main(String[] args) {
```

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```
    String a[] = {"hello", "world"};
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}
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    String t = a[0];
    a[0] = a[1];
    a[1] = t;
}) */
```

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**Arun** • a year ago

In JAVA, parameters are passed by value. So, when we pass an object in JAV is refered by the name of the object. Now, if we create the wrapper class and modifying the variable through the object will change the value at the address as parameter) which is demonstrated by the example above using wrapper cl However, in the first code, passing Integer object passes the object's address space...just local the variable pointing to the address are swapped and not the the control returns back, it founds the same values there as before.

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**biswajit** • 2 years ago

```
 Guess this ll do
class Test {
        // swap() doesn't swap i and j
        public static void swap(Integer i, Integer j) {
                Integer temp = new Integer(i);
                i = j;
```

705

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```
                j = temp;
                System.out.println("i = " + i + ", j = " + j);
        }

        public static void main(String[] args) {
                Integer i = new Integer(10);
                Integer j = new Integer(20);
                System.out.println("i = " + i + ", j = " + j);
                swap(i, j);
        }
}
```

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**Agraj** · 4 years ago

Good to see finally some Java Tips coming up here.... :-)

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**karan** · 4 years ago

So how do we swap integers in java?

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**Shekhu** ↗ karan · 4 years ago

We can have a wrapper class over int to swap.

[sourcecode language="java"]class intWrap {
int x;
}

public class Main {

public static void main(String[] args) {

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```
i.x = 10;
intWrap j = new intWrap();
j.x = 20;
swap(i, j);
System.out.println("i.x = " + i.x + ", j.x = " + j.x);
}

public static void swap(intWrap i, intWrap j) {
int temp = i.x;
i.x = j.x;
j.x = temp;
}
}
```

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**Ajinkya Jadhav** ➦ Shekhu • 2 years ago

Thanks. really helpful.
Now i know why wrappers are given so much credit in Java

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