

Passing primitives versus passing references



This work by [Rob Cleary](#) is licensed under a [Creative Commons Attribution-ShareAlike 3.0 Unported License](#). Based on a work at www.usethetools.net. Permissions beyond the scope of this license may be available via usethetoolsinstructor1@gmail.com

After doing this exercise, the learner...

- 1. has been confronted with a common primitive pass-by-value mistake.**
- 2. has been confronted with a common Object reference pass-by-value mistake.**

Note:

Feel free to experiment and ask questions when you come up against something that confuses you.

To Do:

Follow this and use the code below after. Copy and compile the codes yourself and experiment briefly whenever you are curious (oh!... and ask questions).



This work by [Rob Cleary](#) is licensed under a [Creative Commons Attribution-ShareAlike 3.0 Unported License](#). Based on a work at www.usethetools.net. Permissions beyond the scope of this license may be available via usethetoolsinstructor1@gmail.com.

Passing primitives versus passing references

First, copy and compile the familiar Person class below.

Person.java

```
class Person
{
    String name;
    int age;

    Person(String namePassedIn, int agePassedIn)
    {
        this.name = namePassedIn;
        this.age = agePassedIn;
    }
}
```

Next,

Examine the source-files below and – before compiling or running the code – try to predict what will happen?

PassAPrimitive.java

```
class PassAPrimitive{
    public static void main(String[] args)
    {
        Person p1 = new Person("tim", 14);
        System.out.println("tim is: "+p1.age);

        makeOneYearOlder(p1.age); //pass an int

        System.out.println("tim is: "+p1.age);
    }

    static void makeOneYearOlder(int intPassedIn)
    {
        intPassedIn += 1;
    }
}
```

See code on next page:



This work by [Rob Cleary](#) is licensed under a [Creative Commons Attribution-ShareAlike 3.0 Unported License](#). Based on a work at www.usethetools.net. Permissions beyond the scope of this license may be available via usethetoolsinstructor1@gmail.com.

Passing primitives versus passing references

Copy, compile and examine the output for this file – what do you think is happening?

PassAReference.java

```
public class PassAReference{

    public static void main(String[] args)
    {
        Person p1 = new Person("tim", 14);
        System.out.println("tim is: "+p1.age);

        makeOneYearOlder( p1 );    //pass a reference

        System.out.println("tim is: "+p1.age);

    }

    static void makeOneYearOlder(Person referencePassedIn)
    {
        referencePassedIn.age += 1;
    }

}
```

END



This work by [Rob Cleary](#) is licensed under a [Creative Commons Attribution-ShareAlike 3.0 Unported License](#). Based on a work at www.usethetools.net. Permissions beyond the scope of this license may be available via usethetoolsinstructor1@gmail.com.