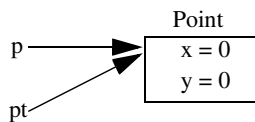


GENERAL TECHNIQUES

PRAXIS 2

`fyPoint` are not reflected in `main` because there are two different objects. Right? Wrong.

Actually, `modifyPoint` is working with a copy of a *reference* to the `Point` object, not a copy of the `Point` object. Remember that `p` is an object reference and that Java passes parameters by value. More specifically, Java passes object *references* by value. When `p` is passed from `main` to `modifyPoint`, a copy of the value of `p`, the reference, is passed. Therefore, the `modifyPoint` method is working with the same object but through the alias, `pt`. After entering `modifyPoint`, but before the execution of the code at `//1`, the object looks like this:



Therefore, after the code at `//1` is executed, the `Point` object has changed to (5, 5). What if you want to disallow changes to the `Point` object in methods such as `modifyPoint`? There are two solutions for this:

- Pass a clone of the `Point` object to the `modifyPoint` method. See PRAXES 64 and 66 for more details on cloning.
- Make the `Point` object immutable. See PRAXIS 65 for a discussion of immutable object techniques.

PRAXIS 2: Use `final` for constant data and constant object references

Many languages offer a notion of *constant data*, which is data that does not change and cannot be changed. Java provides the keyword `final` to specify constant data. For example:

```
class Test
{
    static final int someInt = 10;
    //...
}
```

This code declares a `static` class variable named `someInt` and sets its value to 10.