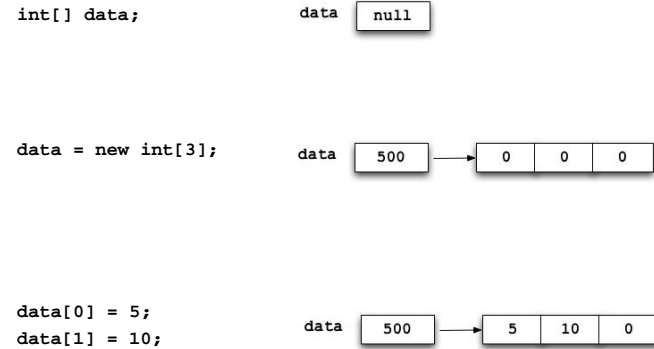


# Introduction to Programming

with Java, for Beginners

## Arrays of Objects

# Array of Primitives



1

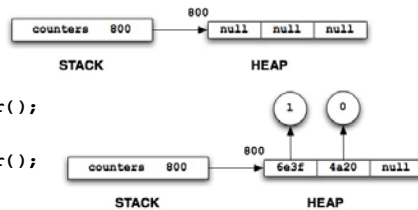
# Array of Objects



```
counters = new Counter[3];
```

- it has 3 references to Counters in it
- all of these references are initially null

```
>counters[0]=new Counter();
>counters[0].inc();
>counters[1]=new Counter();
>counters[0].getCount()
>1
```



2

# Declaring & Initializing Object Arrays

```
Person[] people = {new Person("jo"),new Person("flo")};
Person[] people = new Person[] {new Person("jo"),
                                new Person("flo")};
```

- `Point p1 = new Point(0,0);`  
`Point[] points1 = {p1, new Point(0, 10)};`  
`Point[] points2 = new Point[] {p1, new Point(0, 10)};`

Note: The advantage of using the "new type[]" syntax is that it can be used in an assignment statement that is not a variable declaration statement.

3

## Person Array

```
Person[] people;
```



```
people = new Person[3];
```



```
people[0]=new Person("jo");  
people[1]=new Person("flo");
```



4

## E.g. Person Database

```
public class Person{  
    private String name;  
    private int age;  
  
    Person(String name, int age){  
        this.name = name;  
        this.age = age;  
    }  
  
    public int getAge() { return age; }  
    public String getName() { return name; }  
}
```

5

## E.g. Person Database (contd..)

```
public class PersonDB{  
    private Person[] people;  
    public PersonDB(){  
        people = new Person [] {new Person("jo",25),  
                                new Person("flo",18),  
                                new Person("mo", 19)};  
    }  
  
    /** Calculates and returns the average age. */  
    public double getAverageAge(){  
        double sum = 0;  
        for(int i = 0; i < people.length ; i++){  
            sum = sum + people[i].getAge();  
        }  
        return (sum/people.length);  
    }  
}
```

6

## "Traversing" Arrays of Objects

- We've used loops to traverse arrays of primitives
- We can do the same with arrays of objects

7