

Using Java Beyond BlueJ

Static

What Does Static Mean?

- **main** is "static," what does that mean?
 - First: non-static (instance) = in each object

```
class BankAccount {  
    int acctNum;  
    double balance;  
    ...  
}
```

BankAccount
acctNum: 10000 balance: \$45.67

BankAccount
acctNum: 10001 balance: \$45.67

BankAccount
acctNum: 10002 balance: \$999.10

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```
class BankAccount {  
    int acctNum;  
    double balance;  
    int nextAcctNum;  
}
```

BankAccount	
acctNum:	100
balance:	45.67
nextAcctNum	

BankAccount	
acctNum:	101
balance:	567.89
nextAcctNum	

BankAccount	
acctNum:	102
balance:	8999.10
nextAcctNum	

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```
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    int acctNum;  
    double balance;  
    int nextAcctNum;
```

BankAccount	
acctNum:	0
balance:	0.0
nextAcctNum	0

```
    BankAccount() {  
        acctNum = nextAcctNum;  
        nextAcctNum++;
```

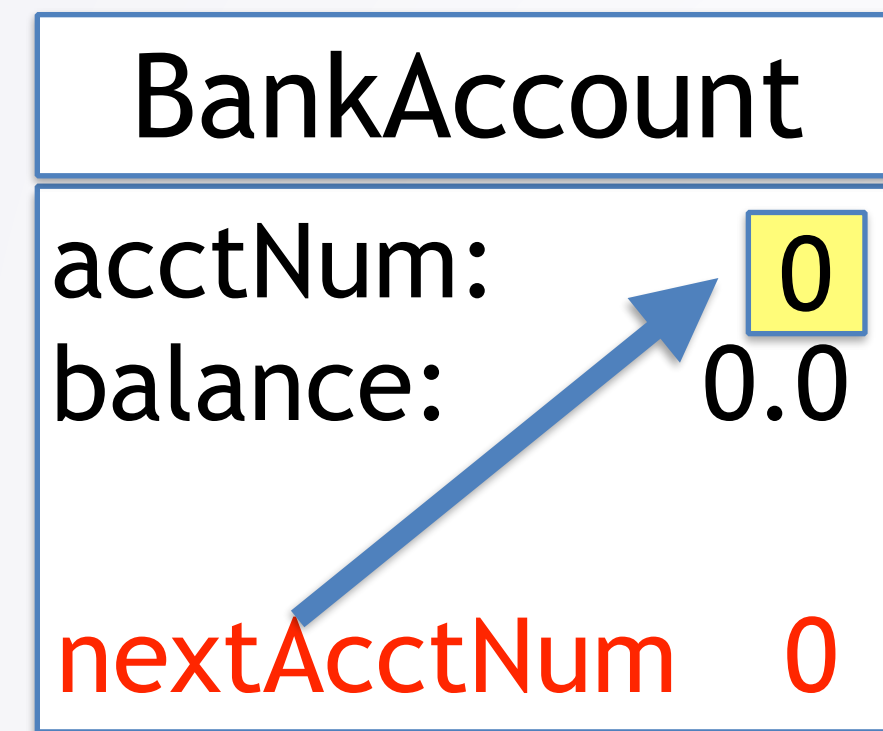
```
    }
```

```
}
```

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        acctNum = nextAcctNum;  
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```
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class BankAccount {  
    int acctNum;  
    double balance;  
    int nextAcctNum;
```

BankAccount	
acctNum:	0
balance:	0.0
nextAcctNum	1

```
    BankAccount() {  
        acctNum = nextAcctNum;  
        nextAcctNum++;
```

```
    }
```

```
}
```

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class BankAccount {  
    int acctNum;  
    double balance;  
    int nextAcctNum;
```

BankAccount	
acctNum:	0
balance:	0.0
nextAcctNum	1

BankAccount	
acctNum:	0
balance:	0.0
nextAcctNum	0

```
    BankAccount() {  
        acctNum = nextAcctNum;  
        nextAcctNum++;
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```
    }
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}
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    int acctNum;  
    double balance;  
    int nextAcctNum;
```

BankAccount	
acctNum:	0
balance:	0.0
nextAcctNum	1

BankAccount	
acctNum:	0
balance:	0.0
nextAcctNum	0



```
    BankAccount() {  
        acctNum = nextAcctNum;  
        nextAcctNum++;
```

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acctNum:	0
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BankAccount	
acctNum:	0
balance:	0.0
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```
    BankAccount() {  
        acctNum = nextAcctNum;  
        nextAcctNum++;
```

```
    }
```

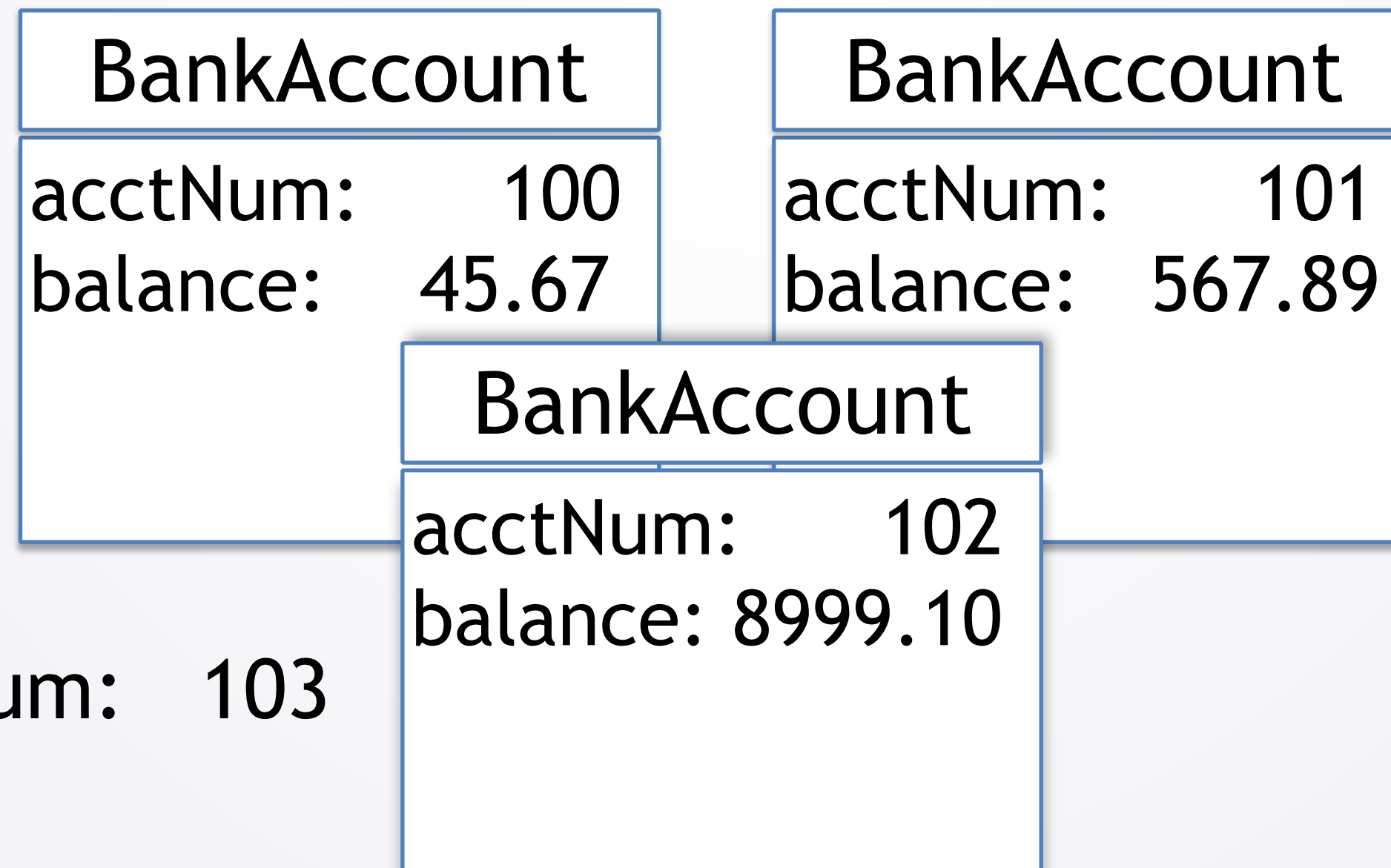
```
}
```

What Does Static Mean?

- **main** is “static,” what does that mean?
 - First: non-static (instance) = in each object
 - Static: one for the entire class

```
class BankAccount {  
    int acctNum;  
    double balance;  
    static int nextAcctNum;  
}
```

BankAccount's nextAcctNum: 103

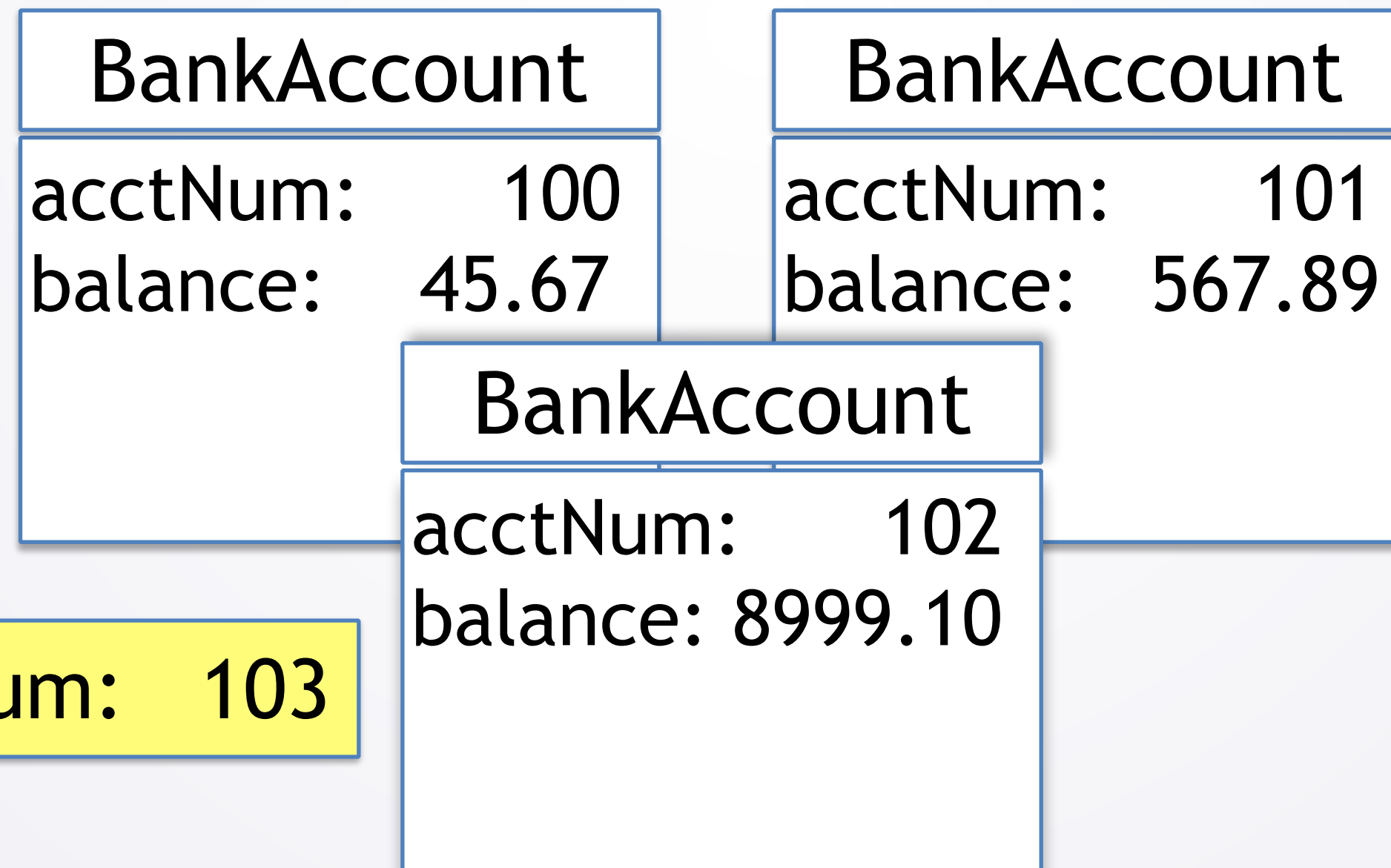


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class BankAccount {  
    int acctNum;  
    double balance;  
    static int nextAcctNum;  
}
```

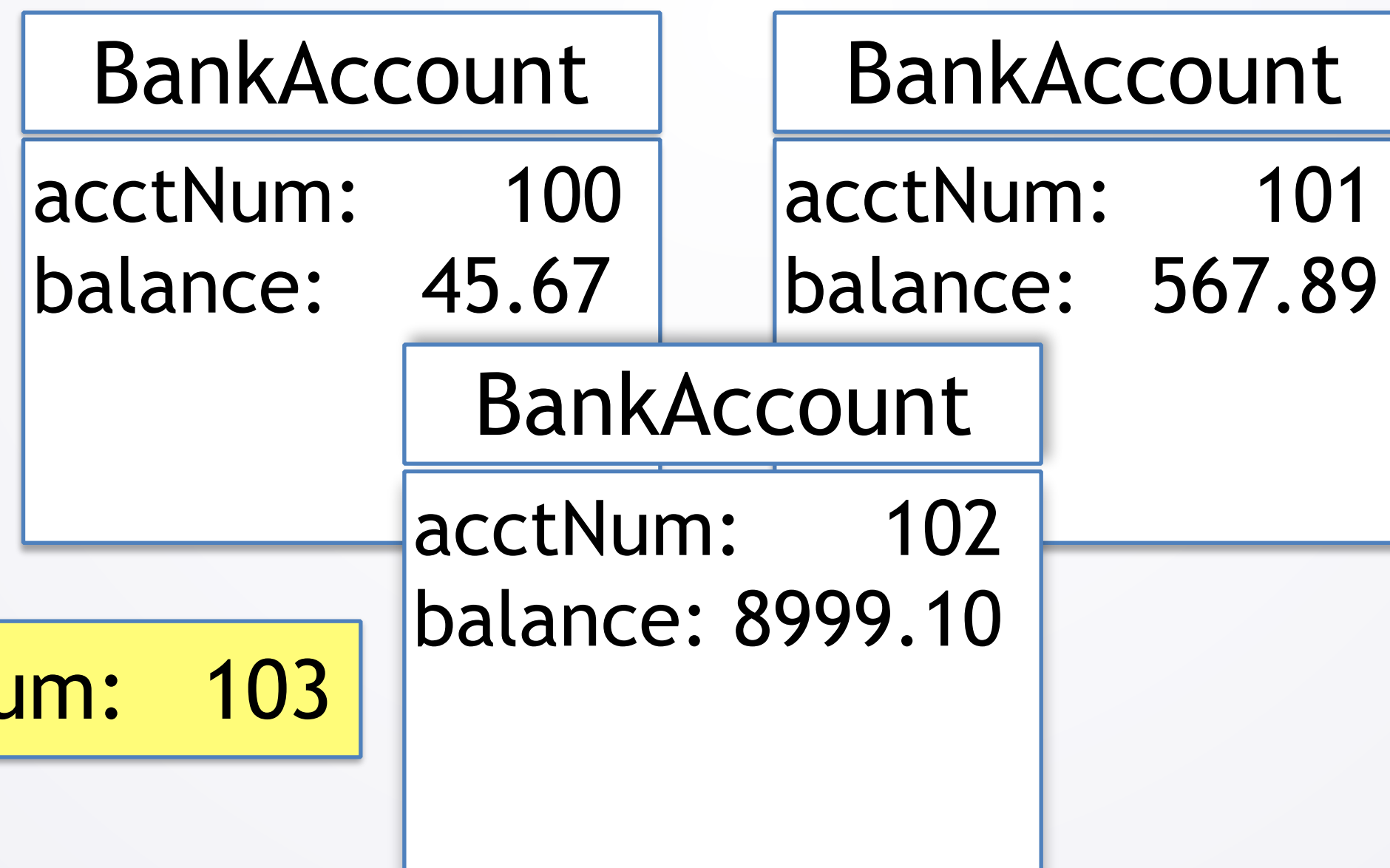
BankAccount's nextAcctNum: 103



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- **main** is "static," what does that mean?
 - First: non-static (instance) = in each object
 - Static: one for the entire class
 - Named: `BankAccount.nextAcctNum`

```
class BankAccount {  
    int acctNum;  
    double balance;  
    static int nextAcctNum;  
}
```



Static: Methods and Fields

- Static fields:
 - One shared by all instances
 - Not as common as instance variables
- Static methods:
 - Not inside any particular instance
 - Can access static fields, call static methods
 - Cannot access instance variables or call regular methods
 - Need to specify what object to use