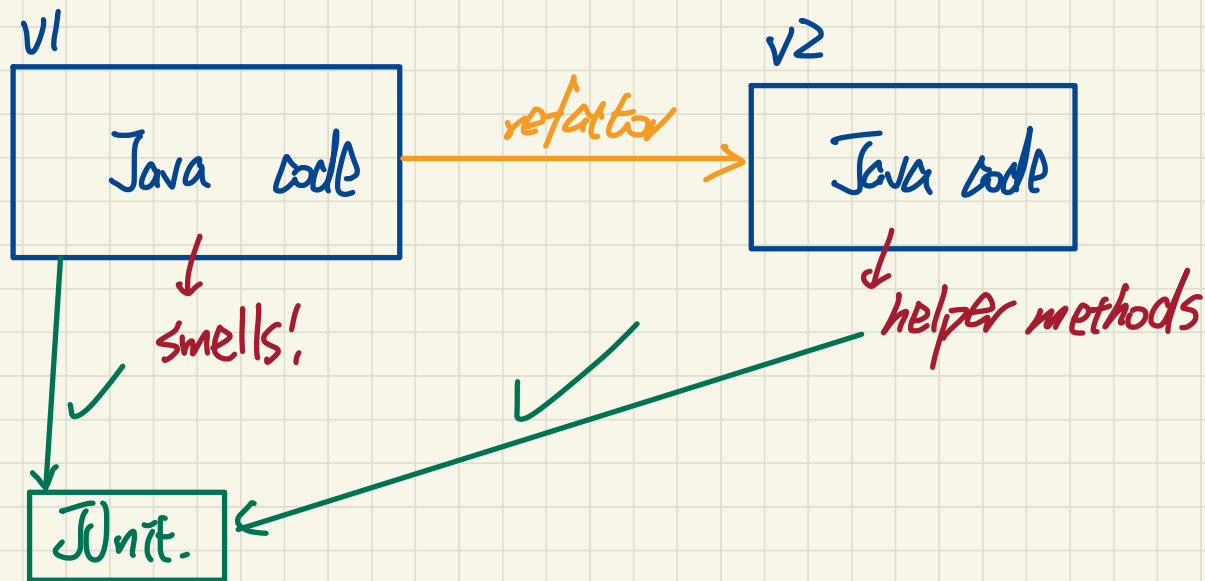


In-Lab Demo - Sep. 11

Helper Methods

Code Smell
Refactoring
Breakpoints & Debugger

$$\underline{x} \cdot y + \underline{x} \cdot z \\ \downarrow \\ \underline{x} \cdot (y + z)$$



PersonCollector: without a Helper Method

```
public class PersonCollector {  
    private Person[] ps;  
    private final int MAX = 100; /* max # of persons to store */  
    private int nop; /* number of persons */  
    public PersonCollector() {  
        this.ps = new Person[MAX];  
    }  
    public void addPerson(Person p) {  
        this.ps[this.nop] = p;  
        this.nop++;  
    }  
}
```

```
    public boolean personExists(String n) {  
        boolean found = false;  
        for(int i = 0; i < nop; i++) {  
            if(ps[i].getName().equals(n)) { found = true; } }  
        return found;  
    }  
    public void changeWeightOf(String n, double w) {  
        for(int i = 0; i < nop; i++) {  
            if(ps[i].getName().equals(n)) { ps[i].setWeight(w); } }  
    }  
    public void changeHeightOf(String n, double h) {  
        for(int i = 0; i < nop; i++) {  
            if(ps[i].getName().equals(n)) { ps[i].setHeight(h); } }  
    }  
}
```

PersonCollector: with a Helper Method

```
public class PersonCollector {  
    private Person[] ps;  
    private final int MAX = 100; /* max # of persons to store */  
    private int nop; /* number of persons */  
    public PersonCollector() {  
        this.ps = new Person[MAX];  
    }  
    public void addPerson(Person p) {  
        this.ps[this.nop] = p;  
        this.nop++;  
    }  
}
```

```
    private int indexOf(String n) { /* Helper Methods */  
        int i = -1;  
        for(int j = 0; j < nop; j++) {  
            if(ps[j].getName().equals(n)) { i = j; }  
        }  
        return i; /* -1 if not found; >= 0 if found. */  
    }  
    public boolean personExists(String n) {  
        return this.indexOf(n) >= 0; }  
    public void changeWeightOf(String n, double w) {  
        int i = indexOf(n); if(i >= 0) { ps[i].setWeight(w); }  
    }  
    public void changeHeightOf(String n, double h) {  
        int i = indexOf(n); if(i >= 0) { ps[i].setHeight(h); }  
    }  
}
```