

Participant code \_\_\_\_\_

# Pre-study questionnaire

1. How long have you been programming? \_\_\_\_\_ years \_\_\_\_\_ months
2. Gender: \_\_\_\_\_
3. If you have any academic computer science background, what degrees have you completed? If you are partway through a degree, what degree and how far?  
  
\_\_\_\_\_
4. How much professional (paid) software development experience do you have? \_\_\_\_\_ years \_\_\_\_\_ months
5. How much experience do you have programming in Java? Include time spent doing Java part-time, such as in a course. \_\_\_\_\_ years \_\_\_\_\_ months
6. How much experience do you have programming in functional languages, such as SML or Haskell? Include time spent doing this part-time, such as in a course \_\_\_\_\_ years \_\_\_\_\_ months
7. Please rate your level of expertise in Java by circling one option:  
  
novice            intermediate            expert
8. Please rate your level of expertise in functional programming by circling one option:  
  
novice            intermediate            expert
9. Have you used Java annotations before? Java annotations start with “@”; examples include @Override and @Nullable. \_\_\_yes \_\_\_no
10. Approximately how big, in lines of code, is the largest project you’ve ever worked on? \_\_\_\_\_ lines
11. We are interested in your understanding of the final feature in Java. Have you used final before?  
  
\_\_\_yes \_\_\_no

Please consider the following Java code:

```
public class CalendarDate {  
    private int month, day, year;  
  
    public void setMonth (int month) { this.month = month; }
```

Participant code \_\_\_\_\_

```
public void setDay (int day) { this.day = day; }
public void setYear (int year) { this.year = year; }

public int getMonth () { return month; }
public int getDay () { return day; }
public int getYear () { return year; }
}

final public class Person {
    private final CalendarDate birthdate;
    public Person (CalendarDate d) {
        birthdate = d; // ONE
    }

    public void setDateOne (CalendarDate d) {
        birthdate = d; // TWO
    }

    public void setDateTwo (CalendarDate d) {
        birthdate.setMonth(d.getMonth()); // THREE
        birthdate.setDay(d.getDay()); // THREE
        birthdate.setYear(d.getYear()); // THREE
    }
}
```

12. At the line marked “ONE”, will the compiler report an error? If so, what is the cause?

---

13. At the line marked “TWO”, will the compiler report an error? If so, what is the cause?

---

14. At the lines marked “THREE”, will the compiler report an error? If so, what is the cause?

---

15. Note that the Person class is marked `final`. Write a line of code that causes a compile error but would NOT cause a compile error if Person were not final.

---

16. What does it mean for a method in Java to be declared `final`?

---