

SAT: Test doubles and Mocks

1. Mocks, stubs, and fakes. What are they, and how do they differ from each other?
2. What are advantages and disadvantages of mocking?
3. According to the guidelines provided in the book, what types of classes should you mock, and which should you not mock?
4. You are testing a system that triggers advanced events based on complex combinations of external, boolean conditions relating to the weather (outside temperature, amount of rain, wind, and so on). The system has been designed cleanly and consists of a set of cooperating classes, each of which has a single responsibility. Explain how would you use mocking in your testing?

5. Suppose your aim is to test `applyDiscount` in the following class:

```
1 public class ChristmasDiscount {
2
3     public double applyDiscount(double rawAmount) {
4         LocalDate today = LocalDate.now();
5
6         double discountPercentage = 0;
7         boolean isChristmas = today.getMonth() == Month.DECEMBER
8             && today.getDayOfMonth() == 25;
9
10        if(isChristmas)
11            discountPercentage = 0.15;
12
13        return rawAmount - (rawAmount * discountPercentage);
14    }
15 }
```

Note that `LocalDate.now()` is a static method of Java's Time API. How would you handle the dependency on this method in your testing?