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## Chapter 2 Solutions

### Review Questions

1. Which of the following is true of all Java programs? (Choose all that apply.)
  - a. They're compiled into bytecode.
  - b. They run on a virtual machine.
2. The Dalvik virtual machine is specialized for which platform?
  - b. Android
3. The iOS architecture is simpler than Android and Windows Phone 7 because:
  - c. All iOS devices use the same hardware.
4. The Common Language Runtime (CLR) is the virtual machine for which platform?
  - a. Windows Phone 7
5. Which Android component does not have a life cycle model?
  - c. Content Provider
6. All Android apps contain a `main()` method. True or False?

False
7. All iOS apps have a single entry point: the `main()` function. True or False?

True
8. In iOS apps, you write code for life cycle events in which of the following?
  - c. Application delegate
9. Which platform does *not* support multitasking?
  - c. Windows Phone 7
10. "Tombstoning" means a Windows Phone 7 app has been:
  - b. Deactivated
11. Which platform offers life cycle events for handling state transitions in apps?
  - d. All three platforms offer life cycle events.

### Up for Discussion

1. Based on what you know about the three platform architectures discussed in this chapter, which one would you choose to develop apps? Explain your answer.

Answers will vary.

2. Discuss the pros and cons of tombstoning versus multitasking. Why do you think Microsoft chose tombstoning?
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Tombstoning implies that there are no background processes, and multitasking implies there are. When a user resumes a task, tombstoning might seem to result in faster restarts. However, if a process is killed, it must be relaunched. Multitasking might mean slower resume times, but the process doesn't need to be restarted because it's running in the background. Tombstoning represents a Web-based metaphor, and Microsoft might have wanted to emulate a Web experience.

### **Research Projects**

1. Answers will vary based on the sources students chose.
2. "Better" is subjective, so answers will vary. The clear benefit of the CLR is that it supports multiple languages. The Dalvik virtual machine is much smaller and faster.
3. Answers will vary. This project works well when done in groups. Good proposals should include a look at the platform's future trends.