Chapter 1
Introduction to Android

1 Introduction

Q1. Which of the following is a key technlogy for implementing Android apps?
a. Android Studio IDE (Integrated Development Environment),
b. Java
c. Android SDK (Software Development Kit)
d. All of the above.
Answer: d. All of the above.

1 Android—The World's Leading Mobile Operating System

No questions.

1 Android Features

Q1. One benefit of developing Android apps is the openness of the platform. The operating system is _____ and free. This allows you to view Android's source code and see how its features are implemented.
a. proprietary
b. closed source
c. open source
d. None of the above.
Answer: c. open source.

Q2. Unlike Apple's _____ iOS, which is available only on Apple devices, Android is available on devices from dozens of original equipment manufacturers (OEMs) and through numerous telecommunications carriers worldwide.
a. open source
b. proprietary
c. universal access
d. None of the above.
Answer: b. proprietary

Q3. Which of the following statements is *true*?
a. Android apps are developed with Java—one of the world's most widely used programming languages.
b. Java was a logical choice for the Android platform, because it's powerful, free, open source and used by millions of developers.

c. Experienced Java programmers can quickly dive into Android development, using Google's Android APIs (Application Programming Interfaces) and others available from third parties.
d. All of the above.
Answer: d. All of the above.

Q4. GUI programming in Java is _____ —in this book, you'll write apps that respond to various user-initiated events such as screen touches.
a. user driven
b. programmer driven
c. IDE driven
d. event driven.
Answer: d. event driven.

Q5. In addition to directly programming portions of your apps, you'll also use the Android Studio IDE to conveniently _____ predefined objects such as buttons and textboxes into place on your screen, and label and resize them.
a. drag and drop
b. point and click
c. copy and paste
d. None of the above.
Answer: a. drag and drop.

Q6: The multitouch screens allow you to control the device with _____ involving one touch or multiple simultaneous touches.
a. actions.
b. gestures.
c. gesticulations.
d. None of the above.
Answer: b. gestures.

Q7. Which gesture is used to flip item-by-item through a series, such as photos?
a. drag.
b. long press.
c. pinch zoom.
d. swipe.
Answer: d. swipe.

Q8. _____ are software components stored on one computer that can be accessed by an app (or other software component) on another computer over the Internet.
a. GUIs
b. Web services.
c. Classes.
d. None of the above.
Answer: b. Web services.

Q9. With web services, you can create _____, which enable you to rapidly develop apps by quickly *combining* complementary web services, often from different organizations and possibly other forms of information feeds.
a. smashups
b. match ups.
c. mashups.
d. None of the above.
Answer: c. mashups.

1 Android Operating System

Q1. In 2007, the _____ was formed to develop, maintain and evolve Android, driving innovation in mobile technology and improving the user experience while reducing costs.
a. Open Handset Alliance.
b. Open Phone Alliance.
c. Open Software Foundation.
d. Open Software Alliance.
Answer: a. Open Handset Alliance.

1 Android 2.2 (Froyo)

Q1. _____ allows you to use software and data stored in the "cloud"—i.e., accessed on remote computers (or servers) via the Internet and available on demand—rather than having it stored on your desktop, notebook computer or mobile device.
a. Desktop computing.
b. Sky computing.
c. Cloud computing.
d. None of the above.
Answer: c. Cloud computing.

1 Android 2.3 (Gingerbread)

Q1. One of the most significant new features in Android 2.3 was support for _____ —a short-range wireless connectivity standard that enables communication between two devices within a few centimeters. It can be used for payments (for example, touching your Android device to a payment device on a soda machine), exchanging data such as contacts and pictures, pairing devices and accessories and more.
a. WiFi.
b. Bluetooth.
c. near-field coomunication (NFC).
d. None of the above.
Answer: near-field communication (NFC).

1 Android 3.0 through 3.2 (Honeycomb)

Q1. Which of the following was a new Android 3.0 developer feature:

a. fragments, which describe portions of an app's user interface and can be combined into one screen or used across multiple screens.
b. a persistent Action Bar at the top of the screen providing users with options for interacting with apps.
c. ability to use multicore processor architectures for enhanced performance
d. All of the above.
Ans: d. All of the above.

1 Android 4.0 through 4.0.4 (Ice Cream Sandwich)

Q1. What key Android Ice Cream Sandwich developer feature is described by the following? "Using the camera, compatible devices can determine the positioning of the user's eyes, nose and mouth. The camera also can track the user's eye movement, allowing you to create apps that change perspective, based on where the user is looking."
a. Social API.
b. Virtual camera operator.
c. Accessibility API.
d. Face detection.
Answer: d. Face detection.

1 Android 4.1–4.3 (Jelly Bean)

Q1. Which of the following is a set of APIs for incorporating Google functionality into your apps?
a. Google Android Services
b. Google App Services
c. Google Play Services.
d. None of the above.
Answer: c. Google Play Services.

1 Android 4.4 (KitKat)

Q1. Which Android KitKat feature is described by the following: "The status bar at the top of the screen and the menu buttons at the bottom can be hidden, allowing your apps to fill more of the screen. Users can access the status bar by swiping down from the top of the screen, and the system bar (with the back button, home button and recent apps button) by swiping up from the bottom."
a. full-screen mode.
b. immersive mode.
c. immersion mode.
d. None of the above.
Answer: b. immersive mode.

1 Android 5.0 and 5.1 (Lollipop)

Q1. Google's _____ look-and-feel for Android and web applications was the key new feature in Lollipop. It helps you create apps with nice transition effects, shadows

that add depth to the user interface and emphasize actionable components, customization capabilities and more.
a. material design.
b. holo
c. GUI
d. None of the above.
Answer: a. material design.

1 Android 6 (Marshmallow)

Q1. Which Android Marshmallow feature is described by: "Tap and hold the home button while inside any app and Google Now inspects what's on the screen and presents relevant information in the form of cards. For example, in a text message discussing a movie, a card containing information about that movie is displayed.
a. Now on Tap.
b. Tap for Card.
c. Tap on Screen.
d. None of the above.
Answer: a. Now on Tap

1 Downloading Apps from Google Play

Q1. At the time *Android How to Program, 3/e* was written, there were over 1.6 million apps in Google Play, and the number is growing quickly.
a. 160 thousand.
b. 1.6 million.
c. 16 million.
d. 160 million.
Answer: b. 1.6 million.

1 Packages

Q1. Android uses a collection of _____, which are named groups of related, predefined classes. Some of these are Android specific, some are Java specific and some are Google specific. They allow you to conveniently access Android OS features and incorporate them into your apps.
a. modules.
b. packages.
c. containers.
d. None of the above.
Answer: b. packages.

1 Android Software Development Kit (SDK)

Q1. _____ is now Google's preferred Android IDE. It's based on the JetBrains IntelliJ IDEA Java IDE.
a. Eclipse
b. Visual Studio

c. Android Studio.
d. None of the above.
Answer: c. Android Studio.

Q2. The _____ , included in the Android SDK, allows you to run Android apps in a simulated environment within Windows, Mac OS X or Linux, without using an actual Android device.
a. Android simulator.
b. Android emulator.
c. Android device.
d. None of the above.
Answer: b. Android emulator.

Q3. Which of the following statements is *false*?
a. The Android emulator is particularly useful if you do not have access to Android devices for testing.
b. Although you can simulate orientation changes (to portrait or landscape mode), simulating particular accelerometer readings (the accelerometer allows the device to respond to up/down, left/right and forward/backward acceleration) requires features that are not built into the emulator.
c. The Android emulator enables you to simulate the full range of Android gestures.
d. You should certainly test your apps on a variety of Android devices before uploading them to Google Play.
Answer: c. The Android emulator enables you to simulate the full range of Android gestures. Actually, the gestures on the emulator are a bit limited, since your computer probably cannot simulate all the Android hardware features.

Q4. Before running an app in the Android emulator, you'll need to create a(n) _____, which defines the characteristics of the device on which you want to test, including the hardware, system image, screen size, data storage and more.
a. Android Virtual Device (AVD)
b. Cloud Test Lab.
c. Android Device Emulator (ADE)
d. None of the above.
Answer: a. Android Virtual Device (AVD).

Q5. To simulate a long press gesture on the Android emulator:
a. double click the mouse.
b. click and hold the mouse.
c. click the mouse once.
d. click, hold and drag the mouse.
Answer: b. click and hold the mouse.

1 Object-Oriented Programming: A Quick Refresher

Q1. Objects, or more precisely the _____ objects come from, are essentially reusable software components.
a. methods.
b. packages.
c. APIs.
d. classes.
Answer: d. classes.

1 The Automobile as an Object

No questions.

1 Methods and Classes

A class houses the _____ that perform the class's tasks.
a. methods.
b. functions.
c. procedures.
d. None of the above.
Answer: a. methods.

1 Instantiation

Q1. You must build an object of a class before a program can perform the tasks that the class's methods define. The process of doing this is called _____.
a. creation.
b. allocation.
c. building.
d. instantiation.
Answer: d. instantiation.

1 Reuse

Which of the following statements is *false*?
a. You can reuse a class many times to build many objects.
b. The overhead of reusing classes instead of building new ones can discourage reuse.
c. Reuse also helps you build more reliable and effective systems, because existing classes and components often have gone through extensive testing, debugging and performance tuning.
d. Just as the notion of interchangeable parts was crucial to the Industrial Revolution, reusable classes are crucial to the software revolution that has been spurred by object technology.
Answer: Part b. The overhead of reusing classes can discourage reuse. Actually, reuse of existing classes when building new classes and programs saves time and effort.

1 Messages and Method Calls

No questions.

1 Attributes and Instance Variables

Q1. A class's attributes are specified by the class's _____.
a. instance methods.
b. instance variables.
c. packages.
d. None of the above.
Answer: b. instance variables.

1 Encapsulation

Q1. Classes _____ (i.e., wrap) attributes and methods into objects—an object's attributes and methods are intimately related.
a. encumber.
b. enclose.
c. encapsulate.
d. envelop.
Answer: c. encapsulate.

1 Inheritance

Q1. A new class of objects can be created quickly and conveniently by _____—the new class absorbs the characteristics of an existing one, possibly customizing them and adding unique characteristics of its own.
a. customization.
b. inheritance.
c. copying.
d. None of the above.
Answer: b. inheritance.

1 Object-Oriented Analysis and Design (OOAD)

Q1. To create the best solutions, you should follow a detailed analysis process for determining your project's _____ (i.e., defining what the system is supposed to do) and developing a design that satisfies them (i.e., deciding how the system should do it).
a. prerequisites.
b. preconditions.
c. options.
d. requirements.
Answer: d. requirements.

1 Test-Driving the Tip Calculator App in an Android Virtual Device (AVD)

No questions.

1 Opening the Tip Calculator App's Project in Android Studio

No questions.

1 Creating Android Virtual Devices (AVDs)

Q1. Which of the following statements is *false*?
a. For your convenience, Google provides many preconfigured devices that you can use to quickly create AVDs.
b. You perform the swipe gesture on an AVD by placing the mouse over the AVD's "screen" and dragging up with the mouse.
c. One problem with developing Android apps is that you'll need to purchase a broad range of devices on which to test your apps.
d. All of the above are true.
Answer: c. One problem with developing Android apps is that you'll need to purchase a broad range of devices on which to test your apps. Actually, you can test apps for multiple Android devices by creating Android Virtual Devices (AVDs) that emulate each unique device.

1 Running the Tip Calculator App on an Android Device

No questions.

1 Building Great Android Apps

No questions.

1 Android Development Resources

No questions.