**Android Platform and Development Environment**

1. The Android Platform comprises several components. Which one of the following did I NOT say was part of the Android Platform?

* Network protocol analyzers.

1. What are some features of Android's Linux Kernel that you'd typically find in other Linux Kernels as well?

* Permissions architecture, File & Network I/O, Device drivers.

1. Which of the following Android Linux kernel features do not exist or are significantly different from Linux kernels found on traditional desktop machines.

* The Binder IPC mechanism, Power management.

1. (True or False) Android apps run in a standard Java Virtual Machine.

* False.

1. Android's java.\* packages are similar, but not exactly the same as those found in the standard Java distribution. Which of the following two classes is present in the Android Platform? Hint: Check out <http://developer.android.com/reference/packages.html>

* java.util.concurrent.RunnableFuture.

1. Which one of the following statements captures an advantage of using Content Provider to manage application data?

* Starting and stopping Activities, Managing navigation between Activities.

1. FLASHBACK: Which of the following features tend to be limited in handheld devices relative to traditional desktop devices? Pick all that apply:

* Power, Screen Size, Memory, CPU speed.

1. (True or False): You should make sure that your development environment always has the latest version of Java, because otherwise you will not have access to the latest improvements to Java.

* False

1. What was the name of the method in the MainActivity class that sets up and displays the application's user interface screen?

* onCreate().

1. (True or False) Camera support is disabled by default.

* True.

1. Which of the following describe benefits of using an emulator compared to using an actual device?

* Low cost, Can configure hardware.

1. Which of the following describe drawbacks of using an emulator compared to using an actual device?

* May not mimic actual devices closely enough, The Emulator can be slow.

1. (True or False). The Logcat view displays log messages emitted by programs running on your device.

* True.

1. (True or False). Traceview provides line coverage statistics (i.e., which individual lines are executed and which are not) for running Android applications.

* False. (Trace view only shows which methods are executed.)

1. (True or False). Android user interfaces are generally organized as a tree of user interface elements.

* True.

Final QUIZ

## Question 01

The Android Platform comprises several components. Which of the following did I NOT say was part of the Android Platform?

### Answer

Network protocol analyzers

## Question 02

There are many resources available to you to help you learn about the Android Platform. Take a moment now to explore each of the following websites. Afterwards, classify each website according to how it supports learning about Android. Does it  
a) provide general information,  
b) support asking specific questions, or  
c) support in-person networking.  
Take a look at the following website: [http://developer.android.com](http://developer.android.com/). Which of the following statements best describes the purpose of this website?

### Answer

General Android information and documentation.

## Question 03

Take a look at the following website: <http://stackoverflow.com/questions/tagged/android>. Which of the following statements best describes the purpose of this website?

### Answer

Question and answer forums.

## Question 04

Take a look at the following website: <http://www.meetup.com/DC-Droids/>. Which of the following statements best describes the purpose of this website?

### Answer

In-person networking.

## Question 05

Take a look at the following website: <https://groups.google.com/group/android-developers>. Which of the following statements best describes the purpose of this website?

### Answer

Question and answer forums.

## Question 06

Take a look at the following website: [http://android-developers.blogspot.com](http://android-developers.blogspot.com/). Which of the following statements best describes the purpose of this website?

### Answer

General Android information and documentation.

## Question 07

Android's Linux Kernel is not exactly the same as the Linux Kernels typically running on desktop machines. Why would Android make its own Linux Kernel?

### Answer

Mobile devices require features not usually needed on traditional desktop devices.

## Question 08

In which of the following programming languages are Android's Native libraries typically written?

### Answer

C/C++

## Question 09

The Resource Manager helps with internationalizing applications. Which of the following might explain why that's important to Android developers?

### Answer

Android phones and applications are sold to and used by people who speak languages other than English.

## Question 10

Which of following kinds of information does the Location Manager provide to applications?

### Answer

* User movement.
* User location.

## Question 11

Which one of the following user interface elements 1) is found in the View System and 2) was shown in the Phone application demonstrated in this week's lecture video?  
Note: If you want to get a peek at a bunch of Android's graphical user interface elements, see: <http://developer.android.com/design/building-blocks>

### Answer

Tabs

## Question 12

(True or False): Eclipse is the IDE of choice for Android. Other IDEs won't provide all the Android development tools that Eclipse does.

### Answer

False

#### Explanation

Eclipse is only one of several IDE's that Android developers can use to write their applications.

## Question 13

(True or False): Android emulators can be controlled externally via a telnet session.

### Answer

True

## Question 14

(True or False): The Traceview tool automatically collects and displays line coverage information when you run Junit test cases on your Android applications.

### Answer

False

## Question 15

(True or False): Some Android applications depend on recent Java features, such as the try-with-resources statement. Therefore, it is important to make sure that you've installed the latest version of Java in your development environment.

### Answer

False

## Question 16

(True or False): Android Virtual Devices can be created to mimic specific physical devices, such as a Nexus One, or a Galaxy Nexus tablet.

### Answer

True

## **Application Fundamentals and the Activity Class**

1. The Android documentation describes an Activity as "a single, focused thing that the user can do." Which one of the following statements best expresses why this statement might be somewhat ambiguous today?

* Some devices, such as Tablets, are large enough to accommodate multiple screenfuls of data at one time.

1. Which one of the following statements might explain why the Music application plays songs using a Service, rather than by using one of its Activities?

* The user might want to listen to music and use another app at the same time.

1. Which of the following statements about the ContentProvider class are true?

* ContentProviders can perform interprocess communication, Android supports several system-wide ContentProviders, ContentProviders encapsulate data sets.

1. Which one of the four fundamental components of Android applications is designed for sharing data across applications?

* ContentProvider

1. Which one of the four fundamental components of Android applications is designed to in-the-background and remote operations?

* Service.

1. Which one of the four fundamental components of Android applications is designed to listen for and respond to events?

* BroadcastReceiver.

1. Which one of the four fundamental components of Android applications is designed to provide an interface to the user?

* Activity.

1. Resources are non-source code entities within your application. Which of the following statements capture advantages of using resources, rather than managing entities directly within application source code?

* Resources can be changed without recompiling source code, Sets of resources can be created for different devices, user preferences, and devices configurations.

1. If you create a resource, such as a string resource, in an XML file, how can you access that resource in your Java code? Indicate each correct answer below.

* You can't. Either you create and use it in XML, or you create and use it in Java.

1. In which directory did we put the main.xml layout file that specifies MapLocation's layout when the device is in landscape mode?

* res/layout-land (The "-land" indicates the layout resources used in landscape mode.)

1. FLASHBACK: In our lesson on The Android Development Environment we talked about the advantages and disadvantages of using emulators. Which of the following are advantages of using an emulator instead of using a device?

* You don't have to buy an actual device, The emulated hardware is reconfigurable, Changes to the emulator state don't make permanent changes to a device.

1. Which one of the following statements best captures a common design theme or principle for Android Activities?

* Each Activity should support one focused thing that the user can do.

1. Which one of the following statements about the Activity lifecycle is false?

* onStop() will always be called when an Activity terminates.

1. Which one of the following steps is typically done in onCreate()?

* Set the Activity's content view.

1. When one Activity wants to start another Activity, it often creates an Object that specifies which Activity or type of Activity it wants to start. What is the type of this Object?

* Intent

1. When an Activity calls startActivityForResult(), it will eventually receive a callback on which one of following methods?

* onActivityResult().

**FINAL QUIZ**

## Question 01

Which two of the following statements capture the main purposes of the Service class?

### Answer

* To enable remote (inter-process) operations.
* To support long-running, in the background operations.

## Question 02

Ignoring the initial xml declaration, what is the outermost xml tag used in the AndroidManifest.xml file?

### Answer

manifest

## Question 03

How would you specify a string called "exit\_message" whose value is "Goodbye", within a strings.xml file?

### Answer

<string name="exit\_message">Goodbye</string>

## Question 04

(True or False) One of the main jobs of the Activity class is to support concurrent access to shared, inter-application data.

### Answer

False

## Question 05

The example applications for this lecture contain Activities that call setContentView(), passing in a resource ID. Which one of the following statements correctly reflects what the setContentView() method does?

### Answer

It processes the underlying resource file to create Java Objects corresponding to the elements specified in the resource file.

#### Explanation

The process of creating Java Objects corresponding to a resource is called inflating.

## Question 06

Suppose that your application has brought Activity A into the foreground. The user then presses a button shown by Activity A, which causes Activity B to be brought into the foreground, ready for user interaction. At this point, what was most likely the last lifecycle method called on Activity A and on Activity B?

### Answer

Activity A.onStop() and Activity B.onResume().

## Question 07

Suppose you write an Activity that edits some persistent user information such as the user's account name, but does not save it immediately. This important data must be saved before the application exits. In which lifecycle method should you normally save the data?

### Answer

onPause()

#### Explanation

Remember that onStop() and onDestroy() may not always be called.

## Question 08

Suppose you attach an OnClickListener to a Button in your Activity. When will this Object's onClick() method be called?

### Answer

When the user presses and releases the Button in quick succession.

## Question 09

One example of a configuration change, is when the user changes the device's global font size. If you want to handle this configuration change manually, what value would you add to a android:configChanges attribute in the application's AndroidManifest.xml file? See: <http://developer.android.com/guide/topics/manifest/activity-element.html> for more information.

### Answer

fontScale

## Question 10

Unless you have a strong reason for doing so, you should generally avoid handling configuration changes manually. Which one of the following statements best explains why?

### Answer

It can be difficult to know and capture each configuration change that might occur.

#### Explanation

Despite this difficulty, you may still sometimes decide to handle configuration changes manually. For example, when your application doesn't need to update resources during a particular configuration change and when your application's performance would suffer from an activity restart.

## **Intents, Permissions, and Fragments**

## Question 01

Suppose that an application includes an Activity named A, and that the application declares an <activity> tag for Awithin its AndroidManifest.xml file. If Activity A should be the main entry point for this application, then it will specify an <intent-filter> element, containing an <action> element. What value should you include to complete the following <action> element definition - <action android:name= "..."/>?

### Answer

android.intent.action.MAIN

## Question 02

Suppose that an application includes an Activity named A and that the application declares an activity tag for A within its AndroidManifest.xml file. If Activity A will be the main entry point for its application and if an icon for this application/activity should appear in the top-level launcher, how should you complete the following <category> element - <category android:name="..."/>?

### Answer

android.intent.category.LAUNCHER

## Question 03

The MapLocationFromContacts application created an Intent with the Action, Intent.ACTION\_PICK and a with data URI representing the contacts database. It then invoked an Activity using startActivityForResult(). What type of data will the started Activity return?

* Text containing Contact Data items.
* Phone Number.
* A string Uri.
* Images.

### Answer

A String Uri.

## Question 04

Suppose you create an application that uses the Vibration Service to make a device vibrate as a deadline approaches. To receive permission to use the Vibrator Service, you will need to add a <uses-permission> element to your application's AndroidManifest.xml file. What permission value should you use to complete the <uses-permission> element - <uses-permission android:name="..."/>?  
See: <http://developer.android.com/reference/android/Manifest.permission.html> for more information.

### Answer

android.permission.VIBRATE

## Question 05

Suppose you create an application that captures and stores personal information from the user, such as the medicines they are currently taking. Other applications may want to use this information and then provide add-on services over it, for example, to create 'time to take your pill' reminders. Which of the following tags would you put in your application's AndroidManifest.xml file to define a new application-specific permission for accessing your application.

* <permission-tree>
* <uses-permission>
* <permission>
* <permission-group>

### Answer

<permission>

## Question 06

(True or False) The Fragment class is a subclass of the Activity class and replaces Activities on large screen devices such as Tablets.

### Answer

False

## Question 07

In which method do Fragments typically create their user interfaces?

* onCreateView()
* onAttach()
* onActivityCreated()
* onCreate()

### Answer

onCreateView()

## Question 08

Which of the following are good reasons for dynamically modifying application layouts at runtime, rather than by using static layout files.

* Dynamically-created layouts will appear on the screen and will respond noticeably faster than static layouts will.
* Dynamic layouts can take advantage of contextual information that's not tracked by Android's configuration system (such as current location, usage time, or ambient light measurements).
* Dynamically-created user interfaces can adapt to an application's runtime state, such as the amount of data that needs to be displayed at any one time.
* Static layouts can't take advantage of contextual information, such as the device's orientation.

### Answer

* Dynamic layouts can take advantage of contextual information that's not tracked by Android's configuration system (such as current location, usage time, or ambient light measurements).
* Dynamically-created user interfaces can adapt to an application's runtime state, such as the amount of data that needs to be displayed at any one time.

## Question 09

Suppose you have an Activity that hosts a Fragment. This Fragment has invoked the setRetainInstance() method, passing in the parameter true. Which of the following Fragment lifecycle methods will not be called if the Activity is later killed and restarted due to a reconfiguration?

* onAttach()
* onDestroy()
* onCreateView()
* onCreate()
* onDestroyView()

### Answer

* onDestroy()
* onCreate()

**Threads, AsyncTasks & Handlers**

**QUIZ**

1. (True or False) In Java, when a Thread is created, it will immediately executes its run() method.

* False.

1. (True or False) In Java, Threads running in the same process share dynamically-allocated memory.

* True.

1. (True or False) If your Activity wants to update its View hierarchy from a background Thread, it may do so, as long as it acquires a lock on the root View of its View hierarchy.

* False.

1. Why should an application avoid doing computationally intensive work in the main Thread?

* Computationally intensive work can block the UI Thread, making the application unresponsive.

1. When using an AsyncTask, on which Thread is the AsyncTask's onProgressUpdate() method called?

* The UI Thread.

1. (True or False) AsyncTasks are designed for relatively short term background operations (lasting a few seconds at most), not for longer-running operations. See http://developer.android.com/reference/android/os/AsyncTask.html for more info.

* True

1. In which Thread will a Handler execute its handleMessage() method?

* The Thread in which the Handler was created or associated with when the Handler was constructed.

1. Suppose you have two Handlers running in the same Thread. If your code sends a Message to the Thread's MessageQueue, how does the MessageQueue know which Handler should handle it?

* The Message has a target field that specifies the Handler that should handle it.

**FINAL QUIZ**

## Question 01

(True or False) Java Threads running in the same Process share dynamically-allocated memory.

### Answer

* True

## Question 02

(True or False) Once a Java Thread is created, it typically starts running as soon as the operating system can schedule it.

### Answer

* False

## Question 03

If your Activity creates its user interface hierarchy during a call to its onCreate() method, how do you know in which Thread onCreate() was called? Choose the single best answer.

### Answer

* The onCreate() is always run in the UI thread.

## Question 04

Which of the following methods is guaranteed to run on the application's UI Thread?

### Answer

* Activity.runOnUIThread().
* View.post().

## Question 05

Which of the following statements correctly capture why an application that uses a Handler, might send Messages to the Handler, rather than post Runnables to it, or vice versa?

### Answer

* Messages are used when the Handler implements the Message response.
* Runnables are used when the Sender implements the action to be taken.

## Question 06

Android supports several HTTP clients. Which one of the following HTTP clients will be Android's preferred HTTP client in the future? See <http://android-developers.blogspot.com/2011/09/androids-http-clients.html> for more information.

### Answer

* HttpURLConnection

## Question 07

Which of the following data formats did we discuss in these lectures?

### Answer

* JSON
* XML

## Question 08

Which of the following statements are generally true about DOM parsers?

### Answer

* DOM parsers convert an XML document into a tree structure, which can make it easier to do whole document analyses.
* DOM parsers tend to use more memory than the other kinds of Parsers we discussed in this lesson.

## Question 09

The JavaScript Object Notation Language represents information using two types of data structures. Which two of the following are those data structure?

### Answer

* Lists
* Maps

**Networking**

QUIZ

1. On what port did the NetworkingSockets application open a Socket?

* 80

1. Which of the following httpUrlConnection methods were used by the NetworkingURL application to interact with the earthquake data server?

* getInputStream().

1. The JavaScript Object Notation Language stores information in two data structures. Which two of the following are those data structures?

* List, Map.

1. Which of the following data formats did we discuss in this video segment?

* XML, JSON.

1. What type of XML parser did we use in the example application we just talked about?

* Pull

## **User Notifications, BroadcastReceivers, and Alarms**

Quiz:

1. Những loại Thông báo người dùng nào được cung cấp bởi Android?

=> Answer

- Toast Messages.

- Notification Area Notifications.

- Dialogs.

2. (True or False) Toast messages are used to get information from the user?

=> False

3. Why do Notification Area Notifications use PendingIntents?

=> The underlying Intent will be used by the system, rather than by the component that created it.

Dịch: Tại sao Thông báo khu vực thông báo sử dụng PendingIntents?

* Ý định cơ bản sẽ được sử dụng bởi hệ thống, chứ không phải bởi thành phần đã tạo ra nó.

4. Which of the following is why it is preferable to notify the user of a Notification Area Notification, rather than a Dialog, or vice versa.

- Use a Dialog when the application needs to get user feedback.

- Use a Notification Area Notification when the user should be aware of any current running application.

Dịch: Điều nào sau đây là lý do tại sao nên thông báo cho người dùng về Thông báo khu vực thông báo, thay vì Hộp thoại hoặc ngược lại

* Sử dụng Hộp thoại khi ứng dụng cần nhận phản hồi của người dùng.
* Sử dụng Thông báo khu vực thông báo khi người dùng cần biết về bất kỳ ứng dụng nào đang chạy.

5. When should your application send broadcasts using the LocalBroadcastManager class, rather than using the Context class or vice versa?

- Use the LocalBroadcastManager to broadcast Intents that will only be received within the same application the sends the broadcasts.

- Use the LocalBroadcastManager to register BroadcastReceivers that don't want to receive broadcasts from outside the application.

- Use the Context class when the broadcast must be sticky.

Dịch: Khi nào ứng dụng của bạn nên gửi truyền phát bằng lớp LocalBroadcastManager, thay vì sử dụng lớp Ngữ cảnh hoặc ngược lại?

* Sử dụng LocalBroadcastManager để phát Ý định sẽ chỉ được nhận trong cùng một ứng dụng mà nó sẽ gửi các chương trình phát sóng.
* Sử dụng LocalBroadcastManager để đăng ký BroadcastReceivers không muốn nhận các chương trình phát sóng từ bên ngoài ứng dụng.
* Sử dụng lớp Ngữ cảnh khi phát sóng phải dính.

## 6. If your application only wants to receive some broadcasts while it is active and in the foreground, which of the following scenarios might it implement?

## - Dynamically register its BroadcastReceivers in onResume() and unregister them in onPause().

## Dịch: Nếu ứng dụng của bạn chỉ muốn nhận một số chương trình phát trong khi nó đang hoạt động và ở phía trước, thì kịch bản nào sau đây có thể được thực hiện?

## Tự động đăng ký BroadcastReceivers của nó trong onResume () và hủy đăng ký chúng trong onPause ().

## 7. Which of the following statements capture how Alarms are different from other Android capabilities?

## - Alarms are fired at a particular time in the future. Regular Intent Broadcasts are handled at the time the Intent is broadcast.

## - Notification Area Notifications inform users about events without interrupting their work, while Alarms don't directly inform users.

## Dịch: Phát biểu nào sau đây nắm bắt Báo thức khác với các khả năng khác của Android như thế nào?

## Báo động được bắn vào một thời điểm cụ thể trong tương lai. Phát sóng ý định thường xuyên được xử lý tại thời điểm Ý định được phát.

## Khu vực thông báo Thông báo cho người dùng về các sự kiện mà không làm gián đoạn công việc của họ, trong khi Báo thức không thông báo trực tiếp cho người dùng.

8. How does an application get access to the AlarmManager?

- Use the Context.getSystemService () method to retrieve a reference to the AlarmManager service.

Dịch: Làm thế nào để một ứng dụng có quyền truy cập vào Trình quản lý báo động?

=> Sử dụng phương thức Context.getSystemService () để truy xuất tham chiếu đến dịch vụ AlertManager.

9. When setting up alarms, it's often better than ELAPSED\_REALTIME or ELAPSED\_REALTIME\_WAKEUP alarm types, rather than RTC or RTC\_WAKEUP alarm types. Which of the following statements explains why RTC and RTC\_WAKEUP alarms might not be the best approach in some cases?

- If the network resets the clock system, RTC Alarms may be unpredictable times.

-If the user manually changes the time zone or changes the system clock, RTC Alarms may be unpredictable times.

Dịch: Khi thiết lập báo thức, nó thường tốt hơn các loại báo thức ELAPSED\_REALTIME hoặc ELAPSED\_REALTIME\_WAKEUP, thay vì các loại báo thức RTC hoặc RTC\_WAKEUP. Phát biểu nào sau đây giải thích tại sao báo động RTC và RTC\_WAKEUP có thể không phải là phương pháp tốt nhất trong một số trường hợp?

- Nếu mạng đặt lại hệ thống đồng hồ, Báo động RTC có thể là thời gian không thể đoán trước.

-Nếu người dùng thay đổi thủ công múi giờ hoặc thay đổi đồng hồ hệ thống, Báo động RTC có thể là thời gian không thể đoán trước.

10. For API targets prior to 19: The setInexactRepeating () method is meant to give Android flexibility in the exact timing of alarms. Assuming that mAlarmManager is a valid reference to the AlarmManager and which is a valid reference to a PendingIntent, why does not the following code snippet (modified from the AlarmCreate application shown in this lesson)

mAlarmManager.setInexactRepeating (AlarmManager.ELAPSED\_REALTIME, SystemClock.elapsedRealtime (), 15000, pi);

- setInexactRepeating () requires a specific constant interval, such as INTERVAL\_FIFTEEN\_MINUTES.

Dịch: Đối với các mục tiêu API trước 19: Phương thức setInexactRepeat () có nghĩa là cung cấp cho Android tính linh hoạt trong thời gian báo động chính xác. Giả sử mAlarmManager là một tham chiếu hợp lệ cho AlertManager và là một tham chiếu hợp lệ cho PendingIntent, tại sao đoạn mã sau không được sửa đổi (được sửa đổi từ ứng dụng AlertCreate được hiển thị trong bài học này)

mAlarmManager.setInexactRepeat (AlarmManager.ELAPSED\_REALTIME, SystemClock.elapsedRealtime (), 15000, pi);

- setInexactRepeat () yêu cầu một khoảng không đổi cụ thể, chẳng hạn như INTERVAL\_FIFTEEN\_MINUTES.

## **Graphics, Touch, and Multimedia**

**Câu hỏi 01**

Ứng dụng ví dụ GraphicsPaint hiển thị một số TextViews. Các TextView này được chỉ định trong tệp res / layout / main.xml. Thuộc tính nào sau đây liên quan đến Sơn được chỉ định cho mỗi một trong các TextView?

**Câu trả lời**

android: kiểu chữ

android: văn bản màu

**Câu 02**

Khi ứng dụng của bạn sử dụng Drawable, chẳng hạn như ShapeDrawable, phương thức Drawable nào phải ứng dụng gọi để vẽ Drawable.

**Câu trả lời**

None. Drawable is a graphic that goes into a View. The drawing of these graphics is handled by the View system.

Không ai. Drawable là một đồ họa đi vào View. Bản vẽ của các đồ họa này được xử lý bởi hệ thống View.

**Câu 03**

Giả sử ứng dụng của bạn tạo và sử dụng lớp con Xem tùy chỉnh. Khi Chế độ xem này cần được vẽ lại, hai phương thức nào sau đây sẽ được gọi nhiều nhất?

**Câu trả lời**

view.onDraw ().

view.invalidate ().

**Câu 04**

Ứng dụng GraphicsFrameAnimation bao gồm tệp res / drawable / view\_animation.xml. Tập tin này có một thẻ. Thẻ này tương ứng với lớp Android nào? Xem: http://developer.android.com/guide/topics/resource/animation-resource.html để biết thêm tài liệu.

**Câu trả lời**

AnimationDrawable.

**Câu 05**

View animation khác với Property animation theo cách nào sau đây? Xem: http://developer.android.com/guide/topics/graphics/prop-animation.html để biết thêm thông tin.

**Câu trả lời**

View animation thường yêu cầu ít mã hơn để thiết lập và sử dụng so với Property animation .

View animation không thực sự sửa đổi Đối tượng xem, chỉ xuất hiện trên màn hình, trong khi Property animation sẽ sửa đổi Đối tượng đang animation .

View animation chỉ dành cho Lượt Views. Property animation animates nhiều hơn chỉ views.

View animation được giới hạn chỉ một vài thuộc tính Xem. Property animation có thể làm động một tập các thuộc tính rộng hơn.

**Câu 06**

Một số ứng dụng ví dụ của bài học này sử dụng các bộ nội suy, chẳng hạn như Bộ xử lý tuyến tính (LinearInterpolator)và Bộ điều khiển gia tốc (AccelerateDecelerateInterpolator). Phát biểu nào sau đây nắm bắt tốt nhất mục đích chính của bộ nội suy?

**Câu trả lời**

Nó xác định cách các giá trị cụ thể trong một hình ảnh động được tính như là một hàm của thời gian.

**Câu 07**

Một cử chỉ thường bắt đầu bằng một sự kiện chuyển động có một trong các mã hành động sau đây?

**Câu trả lời**

ACTION\_DOWN.

**Câu hỏi 08**

Cử chỉ có thể kết thúc bằng các sự kiện chuyển động có mã hành động nào sau đây?

**Câu trả lời**

HÀNH ĐỘNG\_UP.

ACTION\_CANCEL.

**Câu hỏi 09**

Khẳng định nào sau đây thể hiện các thuộc tính nhất quán mà Android cố gắng đảm bảo về MotionEvents bao gồm các cử chỉ chạm?

**Câu trả lời**

Con trỏ đi lên một lúc.

Con trỏ di chuyển như một nhóm.

Con trỏ đi xuống một lúc.

**Câu 10**

Giả sử ứng dụng của bạn có Chế độ xem chung và khi người dùng chạm vào Chế độ xem đó, bạn muốn phương thức doWork () của Object1 được gọi. Chiến lược nào sau đây bạn có thể sử dụng để đảm bảo điều đó?

**Câu trả lời**

Đính kèm Object1 như một người nghe của View và gọi doWork () từ phương thức onTouch () của Object1.

Gọi Object1.doWork () từ phương thức ViewT onEouch () của View.

**Câu 11**

Ứng dụng TouchGestureViewFlipper sử dụng GestureDetector. Trong hàm tạo cho GestureDetector, ứng dụng chuyển vào Listener. Lớp học đó là gì?

**Câu trả lời**

SimpleOnGestureListener

**Câu 12**

Phương pháp nào được sử dụng để xác định xem một cử chỉ người dùng thực tế có khớp với cử chỉ do ứng dụng tùy chỉnh không?

**Câu trả lời**

GestureL Library.recognize().

**Câu 13**

(Đúng hoặc Sai) Trong Android, thuật ngữ "Nhạc chuông" ("Ringtone") chỉ dành riêng cho âm thanh được phát khi thiết bị nhận được một cuộc gọi điện thoại?

**Câu trả lời**

Sai

**Giải trình**

Trong Android, thuật ngữ Nhạc chuông chỉ các âm thanh được phát không chỉ khi điện thoại đổ chuông mà cả khi có thông báo đến, báo thức sẽ tắt, v.v.

**Câu 14**

Giả sử ứng dụng của bạn sử dụng MediaPlayer. Phương thức MediaPlayer nào sau đây có thể sẽ được gọi trước khi phương thức MediaPlayer.start () được gọi? Xem: http://developer.android.com/reference/android/media/MediaPlayer.html để biết thêm tài liệu.

**Câu trả lời**

prepare().

setDataSource ().

**Câu 15**

Lớp MediaRecorder hỗ trợ chức năng nào sau đây?

**Câu trả lời**

Quay video.

Ghi âm thanh.

**Câu 16**

(Đúng hoặc Sai) Phương thức Camera.open () có thể không thể trả lại một thể hiện của Camera cho người gọi.

**Câu trả lời**

Đúng

## **Sensors, Location and Maps, and Data Management**

**Quiz:**

When registering a Listener for SensorEvents, you can set the rate at which the Sensor returns its readings. Which of the following Sensor constants represents to the most frequent rate? See: <http://developer.android.com/reference/android/hardware/SensorManager.html> for more information.

* SENSOR\_DELAY\_NORMAL
* SENSOR\_DELAY\_UI
* SENSOR\_DELAY\_GAME
* SENSOR\_DELAY\_FASTEST

### Answer

* SENSOR\_DELAY\_FASTEST

## Question 02

SensorEvents have which of the following fields? See: <http://developer.android.com/reference/android/hardware/SensorEvent.html> for more documentation.

* Sensor-specific measurement values.
* A sensor identifier.
* A measurement accuracy.
* A timestamp.

### Answer

* Sensor-specific measurement values.
* A sensor identifier.
* A measurement accuracy.
* A timestamp.

## Question 03

(True or False) High-pass filters are used when you want to emphasize the transient changes in a Sensor's readings, while deemphasizing the constant portions of the reading?

### Answer

* True

## Question 04

Which of the following Sensor types did the SensorCompass application use?

* TYPE\_MAGNETIC\_FIELD.
* TYPE\_ACCELEROMETER.
* TYPE\_PRESSURE.
* TYPE\_LINEAR\_ACCELERATION.

### Answer

* TYPE\_MAGNETIC\_FIELD.
* TYPE\_ACCELEROMETER.

## Question 05

Which type of LocationProvider gets its readings from Global Positioning System satellites?

* NETWORK\_PROVIDER.
* GPS\_PROVIDER.
* PASSIVE\_PROVIDER.

### Answer

* GPS\_PROVIDER.

## Question 06

Recently Android added an improved API for acquiring Location information via Google Play Services. I have created a new version of the LocationGetLocation application called LocationGetLocationServices. This application is in the source code repository for the class. Which LocationClient method is used in this new application to acquire the last known location reading?

### Answer

getLastLocation

## Question 07

Which class and method did the MapEarthQuakeMap application use in order to create a marker pin for each earthquake? Give your answer in the form "ClassName.MethodName".

### Answer

GoogleMap.addMarker

## Question 08

With the Google Maps Android API, you can change a map's zoom level by calling methods of the CameraUpdate class, such as zoomTo(float). At what zoom level would the width of the earth be roughly 1024dp? See: <https://developers.google.com/maps/documentation/android/views#zoom> for more documentation.

* 8
* 0
* 4
* 2

### Answer

* 2

## Question 09

In the DataManagementPreferenceFragment application, Android invokes a method when the user changes the username preference. The code in this method then updates the display with the new username. What method does Android call?

### Answer

SharedPreferences.OnSharedPreferenceChangeListener.onSharedPreferenceChanged

## Question 10

In the DataManagementFileInternalMemory application, which method was called to open the file from which the application reads the text to display? Give your answer in the form "ClassName.MethodName".

### Answer

Context.openFileInput

## Question 11

If your application wants to write to external memory, it should determine whether that external storage is available by calling the Environment.getExternalStorageState() method. What constant value will this method return if external storage is mounted and available for writing?

### Answer

MEDIA\_MOUNTED

## Question 12

The DataManagementSQL example application called the delete(String table, String whereClause, String[] whereArgs) method. This method takes 3 parameters. Which one of the following statements correctly describes the purpose of the 2nd parameter? See <http://developer.android.com/reference/android/database/sqlite/SQLiteDatabase.html> for more documentation.

* It helps to determine which rows to extract from the database.
* It names the specific database table from where to extract data.
* It provides specific values for parameters to an SQL WHERE clause.
* It gives the location of the database.

### Answer

* It helps to determine which rows to extract from the database.