

MOBILE APPLICATION DEVELOPMENT LAB VIVA Questions :-

1. What is Android?

It is an open-sourced operating system that is used primarily on mobile devices, such as cell phones and tablets. It is a Linux kernel-based system that's been equipped with rich components that allows developers to create and run apps that can perform both basic and advanced functions.

2. What Is the Google Android SDK?

The Google Android SDK is a toolset that developers need in order to write apps on Android enabled devices. It contains a graphical interface that emulates an Android driven handheld environment, allowing them to test and debug their codes.

3. What is the Android Architecture?

Android Architecture is made up of 4 key components:

1. Linux Kernel
2. Libraries
3. Android Framework
4. Android Applications

4. Describe the Android Framework.

The Android Framework is an important aspect of the Android Architecture. Here you can find all the classes and methods that developers would need in order to write applications on the Android environment.

5. What is AAPT?

AAPT is short for Android Asset Packaging Tool. This tool provides developers with the ability to deal with zip-compatible archives, which includes creating, extracting as well as viewing its contents.

6. What is the importance of having an emulator within the Android environment?

The emulator lets developers "play" around an interface that acts as if it were an actual mobile device. They can write and test codes, and even debug. Emulators are a safe place for testing codes especially if it is in the early design phase.

7. What is the use of an activityCreator?

An activity Creator is the first step towards the creation of a new Android project. It is made up of a shell script that will be used to create new file system structure necessary for writing codes within the Android IDE.

8 . Describe Activities.

Activities are what you refer to as the window to a user interface. Just as you create windows in order to display output or to ask for an input in the form of dialog boxes, activities play the same role, though it may not always be in the form of a user interface.

9. What are Intents?

Intents displays notification messages to the user from within the Android enabled device. It can be used to alert the user of a particular state that occurred. Users can be made to respond to intents.

10. Differentiate Activities from Services.

Activities can be closed, or terminated anytime the user wishes. On the other hand, services are designed to run behind the scenes, and can act independently. Most services run continuously, regardless of whether there are certain or no activities being executed.

11. What items are important in every Android project?

These are the essential items that are present each time an Android project is created:

- Android Manifest.xml
- build.xml
- bin/
- src/
- res/
- assets/

12. What is the importance of XML-based layouts?

The use of XML-based layouts provides a consistent and somewhat standard means of setting GUI definition format. In common practice, layout details are placed in XML files while other items are placed in source files.

13. What are containers?

Containers, as the name itself implies, holds objects and widgets together, depending on which specific items are needed and in what particular arrangement that is wanted. Containers may hold labels, fields, buttons, or even child containers, as examples.

14. What is Orientation?

Orientation, which can be set using `set Orientation()`, dictates if the Linear Layout is represented as a row or as a column. Values are set as either HORIZONTAL or VERTICAL.

15. What is the importance of Android in the mobile market?

Developers can write and register apps that will specifically run under the Android environment. This means that every mobile device that is Android enabled will be able to support and run these apps. With the growing popularity of Android mobile devices, developers can take advantage of this trend by creating and uploading their apps on the Android Market for distribution to anyone who wants to download it.

16. What do you think are some disadvantages of Android?

Given that Android is an open-source platform, and the fact that different Android operating systems have been released on different mobile devices, there's no clear cut policy to how applications can adapt with various OS versions and upgrades.

→ One app that runs on this particular version of Android OS may or may not run on another version.

→ Another disadvantage is that since mobile devices such as phones and tabs come in different sizes and forms, it poses a challenge for developers to create apps that can adjust correctly to the right screen size and other varying features and specs.

17. What is adb?

Adb is short for "Android Debug Bridge". It allows developers the power to execute remote shell commands. Its basic function is to allow and control communication towards and from the emulator port.

18. What are the four essential states of an activity?

1. Active – if the activity is at the foreground
2. Paused – if the activity is at the background and still visible
3. Stopped – if the activity is not visible and therefore is hidden or obscured by another activity
4. Destroyed – when the activity process is killed or completed terminated

19. What is ANR?

ANR is short for Application Not Responding. This is actually a dialog that appears to the user whenever an application have been unresponsive for a long period of time.

21. How are escape characters used as attribute?

Escape characters are preceded by double backslashes. For example, a newline character is created using “\n”

22. What is the importance of settings permissions in app development?

Permissions allow certain restrictions to be imposed primarily to protect data and code. Without these, codes could be compromised, resulting to defects in functionality.

23. What is the function of an intent filter?

Because every component needs to indicate which intents they can respond to, intent filters are used to filter out intents that these components are willing to receive. One or more intent filters are possible, depending on the services and activities that is going to make use of it.

24. Enumerate the three key loops when monitoring an activity?

- Entire lifetime – activity happens between on Create and on Destroy
- Visible lifetime – activity happens between on Start and on Stop
- Foreground lifetime – activity happens between on Resume and on Pause

25. When is the on Stop() method invoked?

A call to on Stop method happens when an activity is no longer visible to the user, either because another activity has taken over or if in front of that activity.

Mobile Application (Android. VIVA Questions and Answers :-**26. Is there a case wherein other qualifiers in multiple resources take precedence over locale?**

Yes, there are actually instances wherein some qualifiers can take precedence over locale. There are two known exceptions, which are the MCC (mobile country code. and MNC (mobile network code. qualifiers.

27. What are the different states wherein a process is based?

There are 4 possible states:

1. foreground activity
2. visible activity
3. background activity
4. empty process

28. How can the ANR be prevented?

One technique that prevents the Android system from concluding a code that has been responsive for a long period of time is to create a child thread. Within the child thread, most of the actual workings of the codes can be placed, so that the main thread runs with minimal periods of unresponsive times.

29. What role does Dalvik play in Android development?

Dalvik serves as a virtual machine, and it is where every Android application runs. Through Dalvik, a device is able to execute multiple virtual machines efficiently through better memory management.

30. What is the Android Manifest.xml?

This file is essential in every application. It is declared in the root directory and contains information about the application that the Android system must know before the codes can be executed.

31. What is the proper way of setting up an Android-powered device for app development?

The following are steps to be followed prior to actual application development in an Android-powered device:

- Declare your application as “debuggable” in your Android Manifest.
- Turn on “USB Debugging” on your device.
- Set up your system to detect your device.

32. Enumerate the steps in creating a bounded service through AIDL.

1. create the .aidl file, which defines the programming interface
2. implement the interface, which involves extending the inner abstract Stub class as well as implanting its methods.
3. expose the interface, which involves implementing the service to the clients.

33. What is the importance of Default Resources?

When default resources, which contain default strings and files, are not present, an error will occur and the app will not run. Resources are placed in specially named subdirectories under the project res/ directory.

34. When dealing with multiple resources, which one takes precedence?

Assuming that all of these multiple resources are able to match the configuration of a device, the ‘locale’ qualifier almost always takes the highest precedence over the others.

35. When does ANR occur?

The ANR dialog is displayed to the user based on two possible conditions. One is when there is no response to an input event within 5 seconds, and the other is when a broadcast receiver is not done executing within 10 seconds.

36. What is AIDL?

AIDL, or Android Interface Definition Language, handles the interface requirements between a client and a service so both can communicate at the same level through interprocess communication or IPC. This process involves breaking down objects into primitives that Android can understand. This part is required simply because a process cannot access the memory of the other process.

37. What data types are supported by AIDL?

AIDL has support for the following data types:

- string
- charSequence
- List
- Map
- all native Java data types like int, long, char and Boolean

38. What is a Fragment?

A fragment is a part or portion of an activity. It is modular in a sense that you can move around or combine with other fragments in a single activity. Fragments are also reusable.

39. What is a visible activity?

A visible activity is one that sits behind a foreground dialog. It is actually visible to the user, but not necessarily being in the foreground itself.

40. When is the best time to kill a foreground activity?

The foreground activity, being the most important among the other states, is only killed or terminated as a last resort, especially if it is already consuming too much memory. When a memory paging state has been reached by a foreground activity, then it is killed so that the user interface can retain its responsiveness to the user.

41. Is it possible to use or add a fragment without using a user interface?

Yes, it is possible to do that, such as when you want to create a background behavior for a particular activity. You can do this by using `add(Fragment, string, method)` to add a fragment from the activity.

42. How do you remove icons and widgets from the main screen of the Android device?

To remove an icon or shortcut, press and hold that icon. You then drag it downwards to the lower part of the screen where a remove button appears.

43. What are the core components under the Android application architecture?

There are 5 key components under the Android application architecture:

44. What composes a typical Android application project?

A project under Android development, upon compilation, becomes an .apk file. This apk file format is actually made up of the AndroidManifest.xml file, application code, resource files, and other related files.

45. What is a Sticky Intent?

A Sticky Intent is a broadcast from sendStickyBroadcast(). method such that the intent floats around even after the broadcast, allowing others to collect data from it.

46. Do all mobile phones support the latest Android operating system?

Some Android-powered phone allows you to upgrade to the higher Android operating system version. However, not all upgrades would allow you to get the latest version. It depends largely on the capability and specs of the phone, whether it can support the newer features available under the latest Android version.

47. What is portable wi-fi hotspot?

Portable Wi-Fi Hotspot allows you to share your mobile internet connection to other wireless device. For example, using your Android-powered phone as a Wi-Fi Hotspot, you can use your laptop to connect to the Internet using that access point.

48. What is an action?

In Android development, an action is what the intent sender wants to do or expected to get as a response. Most application functionality is based on the intended action.

49. What is the difference between a regular bitmap and a nine-patch image?

In general, a Nine-patch image allows resizing that can be used as background or other image size requirements for the target device. The Nine-patch refers to the way you can resize the image: 4 corners that are unscaled, 4 edges that are scaled in 1 axis, and the middle one that can be scaled into both axes.

50. What language is supported by Android for application development?

The main language supported is Java programming language. Java is the most popular language for app development, which makes it ideal even for new Android developers to quickly learn to create and deploy applications in the Android environment.

51)What is Polymorphism in Java?Write an example to achieve polymorphism with an interface.

52)What is a toast class?Write an example for creating notification.

53)What is an APK?What are the things required to do before generating an APK in Android studio?

54)How to implement SQLite database?Explain with an example.

55) Write the steps to achieve basic animation in Android. b)Write sample steps to create the sample app in Eclipse IDE.

56) What are the different resource layouts in android?Describe any two of them.

57)Define android Manifest file.How do you create the default activity in android?

58))What is the intent ?How do you create intent?State steps with an example.

59)Differentiate between Native app and HTML5 app?

60)What is data management?Explain internal and external storage.

61)What is Thread?

62)Explain any three dialogue box supported by Andriod?

63)Define Exceptional Handling?

64)What are the components of Andriod?(activity->intenet->service->boradcast receiver->content Provider)

8 :: How to avoid ANR status?

Android allows the system to protect the applications that are not responsive for a period of time by displaying a status called as ANR (Application not responding). Methods should use the main thread for work, as it takes long time for the main thread to complete the task. The work should be divided and another thread named as child thread be used for executing more tasks, as it takes less time. Main thread should provide a handler for child threads to post back upon completion.

Is This Answer Correct? **3 Yes** ☐ **0 No** ☐

[Post Your Answer](#)

9 :: What are the file features used in android?

Android is rich in file features and it provides lots of variations in them as well. The file features are as follows:

Intent filters:

Includes bundle of information which describes a desired action.

Icons and Labels:

Includes information for small icon and a text label that can be displayed to users. These are set for an intent filter and are used to represent a component which fulfills the function advertised by the filter.

Permissions:

It is a restriction or limitation access to a part of code or data on the device. It is given as:-
`android.permission.CALL_EMERGENCY_NUMBERS`

Libraries:

11 :: What are the different Storage Methods in android?

Android provides many options for storage of persistent data. It provides the solution according to your need. The storage's which have been provided in Android are as follows:

Shared Preferences:

Store private primitive data in key-value pairs

Internal Storage:

Store private data on the device memory.

External Storage:

Store public data on the shared external storage.

SQLite Databases:

Store structured data in a private database.

Network Connection:

Store data on the web with your own network server.

Is This Answer Correct? **4 Yes** ☐ **0 No** ☐

[Post Your Answer](#)

12 :: Explain briefly about the Android Application Architecture?

Android application architecture allows the simplification and reuse of any application. It provides a better way to publish the capabilities of the application so that any other application can make good use of those capabilities.

This architecture includes the following components:

☆ Intent to perform some operation on some activity and service

☆ Resource Externalization - such as strings and graphics

13 :: Which dialog boxes are supported in android?

There are 4 dialog boxes which have been supported by Android. These are as follows:

Alert-dialog: it supports 0 to 3 buttons with a list of select-able elements that includes check box and radio buttons.

1) ProgressDialog:

It displays the progress of any dialog or application. It is an extension of AlertDialog and support adding buttons.

2) DatePickerDialog:

It is used to give provision to the user to select the date

3) TimePickerDialog:

It is used to give provision to the user to select the time

29 :: How you translate in Android?

Android uses Google translator to translate data from one language into another language using XAMPP. XAMPP is used to transmit the data. The steps which have to be followed are: Type the message in your language, go to the language setting, a list will be displayed there, select the language from the list to convert your text.

Is This Answer Correct? ☒ Yes ☐ No

[Post Your Answer](#)

30 :: Define Sticky Intent?

Intent is basically an abstract description of an operation that has to be performed for communication. Sticky Intent is also a type of intent which allows the communication between a function and a service. For example: sendStickyBroadcast() performs send Broadcast(Intent) which stays even after the broadcast is complete. It helps in retrieving the data quickly. The message ACTION_BATTERY_CHANGED of an operating system is an example of it.

Is This Answer Correct? ☒ Yes ☐ No

[Post Your Answer](#)

31 :: What is APK format in Android?

APK termed as Application package file is a format that is used to distribute and install the application software for android, and middleware on the android operating system. To make an APK file, first android is compiled and then all of its parts are grouped in one file termed as package. The package consists of the entire program's code (.dex files), resources, manifest file etc. The file is saved with .apk extension.

Is This Answer Correct? ☒ Yes ☐ No

[Post Your Answer](#)

32 :: What is localization and how to achieve?

Localization is a way of representing the products in different languages. Android is an operating system which runs in many regions, so to reach different users localization is a must. Localization in Android can be achieved by incorporating different languages in the application which you are using. To do this knowledge of Java, XML elements, Activity life-cycle and general principles of internationalization and localization are required.



20 :: Explain TTL (Time to Live) and why is it required?

TTL is a value in data packet of Internet Protocol. It communicates to the network router whether or not the packet should be in the network for too long or discarded. Usually, data packets might not be transmitted to their intended destination within a stipulated period of time. The TTL value is set by a system default value which is an 8-bit binary digit field in the header of the packet. The purpose of TTL is, it would specify certain time limit in seconds, for transmitting the packet header. When the time is exhausted, the packet would be discarded. Each router receives the subtracts count, when the packet is discarded, and when it becomes zero, the router detects the discarded packets and sends a message, Internet Control Message Protocol message back to the originating host.

Is This Answer Correct? ☒ Yes ☐ No

[Post Your Answer](#)

21 :: What are the components of Android?

The main components of Android are:

- 1) Activity
- 2) Intent
- 3) Service
- 4) Broadcast receiver
- 5) Content Provider

Is This Answer Correct? ☒ Yes ☐ No

[Post Your Answer](#)

22 :: Which are the Content provider components of Android?

Content provider is a data store that enables data sharing across different applications. Content providers provide a uniform interface to access the data. An example is Call logs.

Is This Answer Correct? ☒ Yes ☐ No

[Post Your Answer](#)

23 :: What are the Services component of Android?

Services are components that do not have a User Interface; they run in the background. An example of Service component in Facebook app would be the friend request notifications. They would continue to run, even if you switch to another activity or application.

