Android Viva Question:

Describe Android application Architecture?

Answer: Android application architecture has the following components.They are as follows −

Services − It will perform background functionalities

Intent − It will perform the inter connection between activities and the data passing mechanism

Resource Externalization − strings and graphics

Notification − light, sound, icon, notification, dialog box, and toast

Content Providers − It will share the data between applications

What is an Activity?

Answer: Activity performs actions on the screen. If you want to do any operations, we can do with activity

What is an Intent?

Answer: It is connected to either the external world of application or internal world of application, such as, opening a pdf is an intent and connect to the web browser. etc.

What is explicit intent?

Answer: Android Explicit intent specifies the component to be invoked from activity. In other words, we can call another activity in android by explicit intent.

What is implicit intent?

Answer: Implicit Intent doesn't specify the component. In such case, intent provides information of available components provided by the system that is to be invoked.

What is an android manifest file?

Answer: Every application must have an AndroidManifest.xml file (with precisely that name) in its root directory. The manifest file presents essential information about your app to the Android system, information the system must have before it can run any of the app's code.

What is ADT stand for?
Answer: ADT stands for Android development tool, This is useful to develop the applications and test the applications.

What language does android support to develop an application?
Answer: Android applications has written using the java(Android SDK) and C/C++(Android NDK)

What are the tools are placed in An Android SDK?
Answer: Android SDK collaborated with Android Emulator, DDMS(Dalvik Debug Monitoring Services),AAPT(Android Asset Packaging tool) and ADB(Android debug bridge)

What is viewGroup in android?
Answer: View group is a collection of views and other child views, it is an invisible part and the base class for layouts.

What is a service in android?
Answer: The Service is like as an activity to do background functionalities without UI interaction.

What is a content provider in android?
Answer: A content provider component supplies data from one application to others on request. Such requests are handled by the methods of the ContentResolver class. A content provider can use different ways to store its data and the data can be stored in a database, in files, or even over a network.

What are the notifications available in android?
Answer: Toast Notification − It will show a pop up message on the surface of the window
Status Bar Notification − It will show notifications on status bar
Dialogue Notification − It is an activity related notification.

What is container in android?
Answer: The container holds objects, widgets, labels, fields, icons, buttons. etc.

What is ADB in android?
Answer: It is acts as bridge between emulator and IDE, it executes remote shell commands to run applications on an emulator

What is ANR in android?
Answer: ANR stands for application is not responding, basically it is a dialog box that appears when the application is not responding.

What is an Adapter in android?
Answer: The Adapter is used to create child views to represent the parent view items.

What is shared preferences in android?
Answer: Shared preferences are the simplest mechanism to store the data in XML documents.

What are the key components in android architecture?
Answer:
Linux Kernel
Libraries
Android Framework
Android applications.

Where layouts are placed in android?
Answer: In The Layout folder, layouts are placed as XML files

What is nine-patch images tool in android?
Answer: We can change bitmap images in nine sections as four corners,four edges and an axis

How many dialog boxes do support in android?
Answer: AlertDialog, ProgressDialog, DatePickerDialog, and TimePickerDialog

What are the exceptions available in android?
Answer: InflateException, Surface.OutOfResourceException, SurfaceHolder.BadSurfaceTypeException, and WindowManager.BadTokenException

What is the order of dialog-box in android?
Answer: Positive, Neutral, Negative.

What are the different storages available in android?
Answer: Shared Preferences, Internal Storage, External Storage, SQLite Databases and Network Connection

What is a Sticky Intent in android?
Answer: Sticky Intent is also a type of intent which allows the communication between a function and a service for example, sendStickyBroadcast() is perform the operations after completion of intent also.

Why can't you run java byte code on Android?
Answer: Android uses DVM (Dalvik Virtual Machine) rather using JVM(Java Virtual Machine), if we want, we can get access to .jar file as a library.

How does android track the application on process?
Answer: Android provides a Unique ID to all applications is called as Linux ID, this ID is used to track each application.

Define the application resource file in android?
Answer: JSON, XML bitmap. etc are application resources. You can injected these files to build process and can load them from the code.

How to launch an activity in android?
Answer: Using with intent, we can launch an activity.
Intent intent = new Intent(this, MyTestActivity.class);
    startActivity(intent);

How do you pass the data to sub-activities android?
Answer: Using with Bundle, we can pass the data to sub activities.
Bundle bun = new Bundle();
    bun.putString("EMAIL", "contact@educlash.com");

What is singleton class in android?
Answer: A class which can create only an object, that object can be share able to all other classes.

What is fragment in android?
Answer: Fragment is a piece of activity, if you want to do turn your application 360 degrees, you can do this by fragment.

What is sleep mode in android?
Answer: Sleep mode mean CPU will be sleeping and it doesn't accept any commands from android device except Radio interface layer and alarm.

Which kernel is used in android?
Answer: Android is customized Linux 3.6 kernel.

How to update UI from a service in android?
Answer: Use a dynamic broadcast receiver in the activity, and send a broadcast from the service. Once the dynamic receiver is triggered update UI from that receiver.

What folders are impotent in android project?
AndroidManifest.xml
build.xml
bin/
src/
res/
assets/

What are application Widgets in android?
Answer: App Widgets are miniature application views that can embedded in other applications (such as the Home screen) and receive periodic updates. These views has referred to as Widgets in the user interface, and you can publish one with an App Widget provider.

How do you find any view element into your program?
Answer: Using with findViewById we can find view element.

What is drawable folder in android?
Answer: A compiled visual resource that can used as a backgrounds, banners, icons, splash screen etc.

What are the type of flags to run an application in android?
Answer: FLAG_ACTIVITY_NEW_TASK
FLAG_ACTIVITY_CLEAR_TOP.

What is an APK format?

APK is a short form stands for Android Packaging Key. It is a compressed key with classes, UI's, supportive assets and manifest. All files are compressed to a single file is called APK.

What is DDMS?

DDMS stands for Dalvik Debug Monitor Server. It gives the wide array of debugging features:

1. Port forwarding services
2. Screen capture
3. Thread and heap information
4. Network traffic tracking
5. Location data spoofing

What are the basic tools used to develop an Android app?

- JDK
- Eclipse+ADT plugin
- SDK Tools

Some Extra Android Viva Question:

What are different Android activity life cycle

Answer:

Android Activity Lifecycle is controlled by 7 methods of android.app.Activity class. The android Activity is the subclass of ContextThemeWrapper class.
An activity is the single screen in android. It is like window or frame of Java. By the help of activity, you can place all your UI components or widgets in a single screen.
The 7 lifecycle method of Activity describes how activity will behave at different states.

Method	Description
onCreate	called when activity is first created.
onStart	called when activity is becoming visible to the user.
onResume	called when activity will start interacting with the user.
onPause	called when activity is not visible to the user.
onStop	called when activity is no longer visible to the user.
onRestart	called after your activity is stopped, prior to start.

onDestroy	called before the activity is destroyed.

Explain various android layout container?

- AbsoluteLayout: In absolute layout, we can specify the exact coordinates of each control that we want to place.
- FrameLayout: Frame layout is used when you want to show one item on each screen. Using frame layout, we can have multiple items, but they will be overlapping and only only displaying themselves one at a time. FrameLayout is particularly useful when you want to create animation or movement on screen.
- LinearLayout: Linear layout is used to place one element on each line. So, all the elements will be place in an orderly top-to-bottom fashion. This is a very widely-used layout for creating forms on Android.
- RelativeLayout: Using relative layout, we can specify the position of the elements in relation to other elements, or in relation to the parent container.
- TableLayout: Using table layout, we create a table with rows and columns and place elements within them. In each row, you cam specify one or more elements.

What do you mean by gravity and orientation properties in layout

orientation: The orientation attribute used to set the childs/views horizontally or vertically. In Linear layout default orientation is vertical.

gravity: The gravity attribute is an optional attribute which is used to control the alignment of the layout like left, right, center, top, bottom etc.

Explain various android basic control and it's event?

What you mean layout inflator in android:

LayoutInflater is a class used to instantiate layout XML file into its corresponding view objects which can be used in java programs.
In simple terms there are two ways to create UI in android. One is static way and another is dynamic or programmatically.

What are you mean resources file in android. And it relates to main XML file

What do you mean by canvas in bitmap graphics control

The Canvas class holds the "draw" calls. To draw something, you need 4 basic components: A Bitmap to hold the pixels, a Canvas to host the draw calls

(writing into the bitmap), a drawing primitive (e.g. Rect, Path, text, Bitmap), and a paint (to describe the colors and styles for the drawing).

What do you mean by Dalvik Virtual machine

Every Android application runs in its own process, with its own instance of the Dalvik virtual machine. Dalvik has been written so that a device can run multiple VMs efficiently. The Dalvik VM executes files in the Dalvik Executable (.dex) format which is optimised for minimal memory footprint. The VM is register-based, and runs classes compiled by a Java language compiler that have been transformed into the .dex format by the included "dx" tool

What do you mean by Context in android application

Simple Example to understand context in android:

Every boss has an assistant to look after, to do all less important and time consuming tasks. If a file or a cup of coffee is needed, assistant is on the run. Some bosses barely know what's going on in the office, so they ask their assistants regarding this too. They do some work themselves but for most other things they need help of their assistants.

In this scenario,

Boss – is the Android application

Assistant – is context

Files/Cup of coffee – are resources

We generally call context when we need to get information about different parts of our application like Activities, Applications etc.

Some operations (things where assistant is needed) where context is involved:

Loading common resources Creating dynamic views Displaying Toast messages Launching Activities etc. Different ways of getting context:

getContext()

How android app deployed over Google playstore

Describe important role of Gradle in android

Gradle is an advanced build system as well as an advanced build toolkit allowing to create custom build logic through plugins.

Here are some of its features that made us choose Gradle:

- Domain Specific Language (DSL) to describe and manipulate the build logic
- Build files are Groovy based and allow mixing of declarative elements through the DSL and using code to manipulate the DSL elements to provide custom logic.
- Built-in dependency management through Maven and/or Ivy.
- Very flexible. Allows using best practices but doesn't force its own way of doing things.
- Plugins can expose their own DSL and their own API for build files to use.
- Good Tooling API allowing IDE integration

What do you mean by SQLiteOpenHelper class

It is a class found inside android.database.sqlite package. It is a helper class that helps in creating the database, handling the operations and also the version management.

To use sqliteopenhelper, we will create a class, and then we will extend SQLiteOpenHelper inside the class that we created.

Give small description about Sqlite in android

SQLite is a opensource SQL database that stores data to a text file on a device. Android comes in with built in SQLite database implementation.

SQLite supports all the relational database features. In order to access this database, you don't need to establish any kind of connections for it like JDBC,ODBC e.t.c

What do you mean by cursor in SQLiteDatabase

The SQLiteDatabase always presents the results as a Cursor in a table format that resembles that of a SQL database.

You can think of the data as an array of rows. A cursor is a pointer into one row of that structured data. The Cursor class provides methods for moving the cursor through the data structure, and methods to get the data from the fields in each row.

The Cursor class has a number of subclasses that implement cursors for specific types of data.

SQLiteCursor exposes results from a query on a SQLiteDatabase.

SQLiteCursor is not internally synchronized, so code using a SQLiteCursor from multiple threads should perform its own synchronization when using the SQLiteCursor.