**Q1: Fill in blanks 2 Marks**

1. Write the names of any two built-in providers for android **(-CALLLOG,PEOPLE,MEDIASTORE--------------------- ,--------------)**
2. -PhoneGap------------------- is an open source platform that allows you to create cross-platform mobile applications with HTML5, JavaScript, and CSS.
3. To map the table in the content provider you would use (------URI---------).
4. Android uses the Cursor class as a return value for queries(TRUE/FALSE)
5. content providers are primarily intended to be used by other applications, **(TRUE/FALSE)**
6. A content provider presents data to external applications as one or more tables that are similar to the tables found in a relational database **(TRUE/FALSE)**
7. **Titanium** provides a single platform for building native, hybrid and mobile web apps and is the first mobile application platform to combine the flexibility of open source development technologies with the power of the cloud .**(TRUE/FALSE)**
8. You can develop mobile native applications with the help Of HTML5,JavaScript and CSS**.(TRUE/FALSE)** .
9. Mobile application developed by PhoneGap framework would be neither native nor it would be web based. **(TRUE/FALSE)**
10. SQLite is available on every Android device **(TRUE/FALSE)**

**Q2: Answer the following questions in four or five lines [8 Marks]**

1. *“content://authority/path/id” , Explain the purpose and each part of this string.*

*ANSWER:-* **A content URI is a URI that identifies data in a provider. Content URIs include the symbolic name of the entire provider (its authority) and a name that points to a table (a path). When you call a client method to access a table in a provider, the content URI for the table is one of the arguments.**

1. What is the different between hybrid mobile application , native mobile application and mobile web application ,Discuss about it with respect to developer and the user.

Answer:-

**Native Applications – Designed to Operate on a Specific Mobile Operating System**A native application works only on the platform for which it was created. Native apps were originally developed by Apple, which had various programs built in Objective C to run specifically on their mobile OS. Later, Android developed their native apps in Java, which worked only on the Android platform. This type of app results in a smooth user interface, quick processes and efficient features. However, a restricted platform prevents a great app from reaching a large audience. Developers must create multiple versions of a single app to accommodate users with different operating systems.

**Web Applications – Designed to Operate on Multiple Platforms**Web apps, however, do not connect with native apps and cannot make use of APIs or native hardware features like cameras and microphones. Consequently, many companies are reluctant to fully convert to HTML 5

**Hybrid Applications – A Combination of Native and Web Technology** : a hybrid app is a native app operating within a web browser. It provides the same functionality and efficiency for the user, but saves the developer from the tedious process of creating multiple native apps for a single project. Industry experts predict HTML will become more prevalent because of its versatility and efficiency.

Each type of application has strengths and weaknesses. Native apps are confined to a single OS, but they are efficient and compatible with the appropriate hardware. Web apps function on multiple platforms, but they still must connect with hardware features. Hybrid apps will most likely become the most common type of application, but this may be years away. Any developer beginning a project must decide which approach will best suit their needs.

1. *Discuss the road map to build the mobile application for Sqlite database ,user inputs name and email on the UI and data is saved in Sqlite Database, and then how would you view that data from the Sqlite database.*
2. *How can you see sqlite database in eclipse?and how the SQLite database browser tool is helpful for you.?*

We can see the Sqlite database through sqlite database through sqlite database browser tool,without it is very difficult to see the data

**Q3: Develop an mobile application [5 marks]**

Retrieve all contacts stored in the Contacts Application and display them in the list view control with contact Name and contact ID only.Make changes in the main.xml and androidManifest.xml file according to the requirement.

**HINTS:**

**package** pk.edu.iba;

**import** android.app.Activity;

**import** android.app.ListActivity;

**import** android.database.Cursor;

**import** android.net.Uri;

**import** android.os.Bundle;

**import** android.provider.ContactsContract;

**import** android.widget.SimpleCursorAdapter;

**public** **class** ProviderExamActivity **extends** ListActivity {

/\*\* Called when the activity is first created. \*/

@Override

**public** **void** onCreate(Bundle savedInstanceState) {

**super**.onCreate(savedInstanceState);

setContentView(R.layout.*main*);

// ContactsContract.Contacts.DISPLAY\_NAME

// ContactsContract.Contacts.\_ID

// ContactsContract.Contacts.CONTENT\_URI

**// Cursor c=managedQuery(uri, projection, selection, selectionArgs, //sortOrder);**

**// Define a list of columns to retrieve from the Cursor and load into an output row**

**// Define a list of View IDs that will receive the Cursor columns for each row**

**// // Create a new SimpleCursorAdapter**

**// Set the adapter for the ListView**

**Uri allContacts=Uri.*parse*("content://contacts/people");**

**Cursor c=managedQuery(allContacts, null, null, null, null);**

**String[] columns = new String[] {ContactsContract.Contacts.*DISPLAY\_NAME*, ContactsContract.Contacts.*\_ID*};**

**int[] views = new int[] {R.id.*contactName*, R.id.*contactID*};**

**SimpleCursorAdapter adapter = new SimpleCursorAdapter(this, R.layout.*main*, c, columns, views);**

**this.setListAdapter(adapter);**

}

}

**//set permission in the androidManifest.xml file.**

<uses-permission android:name=*"android.permission.READ\_CONTACTS"*>

</uses-permission>

**Q3: Describe briefly these topics of mobile application Development?** **[5 marks]**

1)HTML5 features 2)Purpose of Cursor Class 3) ContentValues Objecet 4) Why and when you would create your own content provider 5) Phonegap and Titanium

1)HTML5

HTML5 is a potential candidate for cross-platform mobile applications. Many features of HTML5 have been built with the consideration of being able to run on low-powered devices such as smartphones and tablets.<VIDEO><audio><canvas> tags has been includes,sccalable vetor graphic is (svg) is included.MATHML for mathmatecal formulas

These features are designed to make it easy to include and handle multimedia and graphical content on the web without having to resort to proprietary plugins and APIs

<section>, <article>, <header> and <nav>, are designed to enrich the semantic content of documents, HTML5 also defines in some detail the required processing for invalid documents so that syntax errors will be treated uniformly by all conforming browsers and other user agents

2)Purpose of Cursor Class

Android uses the Cursor class as a return value for queries

Think of the Cursor as a pointer to the resultset from a database query.Using Cursor enables android to more efficiently manage rows and columns as needed

3) ContentValues Objecet

We use ontentValues object to store key/value pairs ,its put() method enables you to insert key with values of different datatypes.

CreateEntry (name,email) function created u in the activity returns the ID of the inserted row,that is why you fix its return types as a long,if en error occurs during the operation ,it returns -1

4) Why and when you would create your own content provider

You need to build a content provider if you want to provide one or more of the following features:

1. You want to offer complex data or files to other applications.
2. You want to allow users to copy complex data from your app into other apps.
3. You want to provide custom search suggestions using the search framework.

You *don't* need a provider to use an SQLite database if the use is entirely within your own application

5) Phonegap and Titanium

PhoneGap serves as a wrapper for the browser. It appears as if it’s a native app but it’s really an html/javascript app. Titanium can do the exact same thing via “webViews” but Titanium takes it a step further by offering a slew of native APIs for Cocoa Touch outside the browser.

In Titanium you code in javascript, using Titanium’s unique API. The end result, at the app’s runtime, is native performance, native UI’s, etc. In simplest terms: You code in javascript and it ends up being Objective-C (in the case of iOS apps).

The major difference is that phonegap is really an HTML5 application running in an iOS or Android container. You are coding everything in javascript... you are running a web application. Also the user interface elements are rendered using jQtouch or JQuery Mobile or some other javascript UI framework

While titanium is written in javascript, it compiles into a native application and utilizes native controls, it is not an HTML5 application running in a web container