Q1. You are requested to build a mobile app which works same on different mobile platforms including Android, Ios, Bada, Symbian and Black Berry. What tools are available to achieve this, and what will you choose and why, write down its benefits over other tools?

Well, in order to make a mobile app which works on different mobile platforms including android, iOS, Bada, Symbian and black berry, we have some hybrid solutions such as Xamarine, React Native, Flutter, Ionic, Phonegap.

So, among these hybrid solutions I will choose React Native as my technology to build a hybrid app. The reasons for opting react native among other are listed below:

* React Native is a Facebook developed open-source Javascript Framework.
* One of the most important benefit of react native is its code reusability, due to this reason the developers don’t have to develop a separate app for each platform.
* Another great advantage is that you can also reuse the web application codes for creating a mobile app, if they are written in React.
* React Native also enhances the speed of development due to the presence of the pre-developed components available in the open-source library.
* Large community support, which means if I get stuck then there is a professional react native community to help me to cope the problem.
* React native gives you the advantage of having the best libraries, which helps to simplify the task of app development.

Q2:

1:

Output: so this code will download the image from given link in code and set it in imageview.

2:

Output: A toast will appear with the message: Rest time is now and The day everyone wait for

3:

This will Reboot the phone then will show the text message “Mobile Phone Rebooted”

4:

This will create new service that will display a toast message: “Sukkur IBA University”

Q3: Android debugging process:

A:

When you want to start the debugging mode, first you have to make sure your device is setup for debugging and connected to USB and then just open your project in Android Studio and just click the debug icon, then android studio will launch your application in the debug mode.

The easiest way to debug the code in app is using Log, this utility will allow you the send log outputs, which you can view in Logcat in Android Studio, in this type of debugging you don’t have to run your app in the debug mode to do this, just simple use android.util.Log in combination with one of the following methods: Log.v(), Log.d(), Log.i(), Log.w(), Log.e(). All of them use 2 string parameters: Tag and the message you want to display on the log.

There is another method which is used for debugging is Logcat. Here we use Logcat utlity which handles if-statement among other things.

There are also breakpoints utility is android studio which you can use to debug the app, We use break points when we reached at a point that the bug can’t be fixed by just looking at the the code, so in this condition we use breakpoints.

B:

The android build system compiles app resources and source code, and packages them into APKs that you can test, deploy, sign and distribute. Android Studio uses Gradle, which is a toolkit, that automate and manage the build process. The build process involves many tools and process that convert your project into an APK.

1. The compilers convert your source code into DEX files, which include the bytes code that runs on Andorid devices and everything else into compiled resources.
2. The APK packager combines the DEX files and compiled resources into single APK.
3. The APK Packager signs your APK using either the debug or release keystore:
4. Before generating your final APK, the packager uses the zipalign tool to optimize your app to use less memory when running on a device.

So, at the end of the build process, you have either a debug APK or release APK of your file that you can use to deploy, test or release to external users.

Programming Task:

Q1:

Public class MainActivty extends AppActivty{

Public void readJokes(){

Cursor cursor= getContentResolver().query(

Com.JokesList.jokes.contentURI, new String[] {con.JokesList.jokes.title, con.JokesList.jokes.joke, null, null, null);

Cursor.movetoFirst();

ListView listview=(ListView).findViewByid(R.id.listview);

MyCursorAdapter adp=new MyCursorAdapter (this, cursor);

Listview.setAdapter(adp);

}

}

Q2:

1. NotifcationManger m= (NotificationManager).getSystemService(NOTIFICATION\_SERVICE);
2. NotificationCompact.Builder b= new NotificationCompact.Builder(this, CHENNEL\_ID)

.setSmallIcon(R.drawable.notification\_icon)

.setContentTitle(textTitle)

.setContentText(textContent)

.setPriority(NotifactionCompat.PRIORITY\_DEFAULT);

1. Intent intent= new Intent(con.action.browser);

PendingIntent pIntent= PendingIntent.getActivity(this,0, intent, 0);

1. Builder.addAction(imgBitmap,”Action”,pIntent);
2. Manager.notify(Notification\_ID, builder.build());