Session11Assignment1

1. What is the use of SQlite open helper class in SQLite?

Ans: It is a helper class to manage database creation and version management.

You create a subclass implementing SQLiteOpenHelper Class's methods. This class takes care of

a. Opening the database if it exists, creating it if it does not,
b. Upgrading the database as necessary.
c. Transactions are done by extending this class to make sure the database is always in a sensible state.

In short it takes care of all database management activities. You need to override 2 methods of the class when extending it: onCreate() and onUpgrade()

This class is found inside android.database.sqlite package.

Syntax: onCreate() method:

```
// Creates Table
@Override
public void onCreate(SQLiteDatabase db) {

String <<Table Creation String>> = "CREATE TABLE" + <<Table Name>> +
"(" +
    <<Field 1 >> + " << Datatype >> PRIMARY KEY" +
    <<Field 2>> + "<<Data Type>>"  +
    <<Field 3>> + "<<Data Type >>" +
    ………………………………….+
")";

// Executes the string as an SQL statement
db.execSQL(<<Table Creation String>>);

}
```

Syntax: onUpgrade() method:

```
// Upgrades Database
@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

// Drops older table if it exists
db.execSQL("DROP TABLE IF EXISTS " + <<Table Name>>);
```

```
// Create tables again
onCreate(db);
}
```

2. What is the use of onUpgrade() function in SQLiteOpenHelper Class?

 Ans: It is a method used to when upgrading a database to
   a. Modify Table Structure
   b. Add Constraints
      Etc.

   Dropping the table is not always necessary in onUpgrade() method. It all depends on what one's use case is. If the requirement is to not to persist data from the version of the app implementing the SQLite database, then Drop will help. But to to change schema and persist data, then it should only have ALTER scripts.

   Syntax: onUpgrade() method:

```
// Upgrades Database
@Override
public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {

// Drops older table if it exists
db.execSQL("DROP TABLE IF EXISTS " + <<Table Name>>);

// Create tables again
onCreate(db);
}
```

3. How to show SQLite database table information in Android application what is the best way to do it?

 Ans: Use the query() methos and pass the selected criteria and desired columns, to read from the database. The method combines elements of insert() and update(), except the column list defines the data that needs to be fetched rather than inserting data. The results of the query are returned to the Cursor object.
Cursor Object is a collection of the queried data.
   - moveToFirst() is used to point cursor position from where we need to get data from the cursor.
   - There are other methods – moveToLast(), moveToNext(), moveToPrevious(), moveToPosition(position) by which one can interate through cursor as desired.

Example:

```
public Contact getContact(int id){

    SQLiteDatabase db = this.getReadableDatabase();

    Cursor cursor db.query(TABLE_CONTACTS,
     new String[]{KEY_ID,KEY_NAME, KEY_PH_NO}, KEY_ID+"=",
     new String[]{String.valueOf(id)}, null, null, null, null);

    if(cursor!=null){
    Cursor.moveToFirst();
    Contact contact = new Contact(Integer.parseInt(cursor.getString(0)),
Cursor.getString(1), cursor.getString(2));
    Return contact;
    }
```