



**Tilak Education Society's
S.K College of Science & Commerce
(Affiliated to University of Mumbai)**

NAAC Accredited "A" Grade with 3.17 CGPA & ISO 9001:2015 Certified Institution

Plot 31, Sector 25, Seawoods, Nerul (East), Navi Mumbai.400706

Email:skc.nerul@gmail.com Website: www.tilakedu.com

Name of the Student: Kavya Balakrishnan

SRN: 2022010005

Experiment No: 8

Class: TYIT

Practical No: 8

AIM: Database Programming with SQLite

build.gradle

id 'kotlin-android'

id 'kotlin-android-extensions'

DBHelper.kt

package com.example.practical8_2025

import android.content.ContentValues

import android.content.Context

import android.database.Cursor

import android.database.sqlite.SQLiteDatabase

import android.database.sqlite.SQLiteOpenHelper

class DBHelper(context: Context, factory: SQLiteDatabase.CursorFactory?) :

 SQLiteOpenHelper(context, DATABASE_NAME, factory, DATABASE_VERSION) {

 // below is the method for creating a database by a sqlite query

 override fun onCreate(db: SQLiteDatabase) {

 // below is a sqlite query, where column names

 // along with their data types is given

 val query = ("CREATE TABLE " + TABLE_NAME + " ("

 + ID_COL + " INTEGER PRIMARY KEY, " +



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Class: TYIT

```
NAME_COL + " TEXT," +  
AGE_COL + " TEXT" + ")")
```

```
// we are calling sqlite  
// method for executing our query  
db.execSQL(query)  
}  
  
override fun onUpgrade(db: SQLiteDatabase, p1: Int, p2: Int) {  
    // this method is to check if table already exists  
    db.execSQL("DROP TABLE IF EXISTS " + TABLE_NAME)  
    onCreate(db)  
}  
  
// This method is for adding data in our database  
fun addName(name : String, age : String ){  
  
    // below we are creating  
    // a content values variable  
    val values = ContentValues()  
  
    // we are inserting our values  
    // in the form of key-value pair  
    values.put(NAME_COL, name)
```



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```
values.put(AGE_COL, age)

// here we are creating a
// writable variable of
// our database as we want to
// insert value in our database
val db = this.writableDatabase

// all values are inserted into database
db.insert(TABLE_NAME, null, values)

// at last we are
// closing our database
db.close()
}

// below method is to get
// all data from our database
fun getName(): Cursor? {

// here we are creating a readable
// variable of our database
// as we want to read value from it
val db = this.readableDatabase
```



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```
// below code returns a cursor to

// read data from the database

return db.rawQuery("SELECT * FROM " + TABLE_NAME, null)

}

companion object{

    // here we have defined variables for our database

    // below is variable for database name

    private val DATABASE_NAME = "GEEKS_FOR_GEEKS"

    // below is the variable for database version

    private val DATABASE_VERSION = 1

    // below is the variable for table name

    val TABLE_NAME = "gfg_table"

    // below is the variable for id column

    val ID_COL = "id"

    // below is the variable for name column

    val NAME_COL = "name"
```



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```
// below is the variable for age column
```

```
val AGE_COL = "age"
```

```
}
```

```
}
```

MainActivity.kt

```
package com.example.practical8_2025
```

```
import android.support.v7.app.AppCompatActivity
```

```
import android.os.Bundle
```

```
import android.widget.Toast
```

```
import kotlinx.android.synthetic.main.activity_main.*
```

```
class MainActivity : AppCompatActivity() {
```

```
    override fun onCreate(savedInstanceState: Bundle?) {
```

```
        super.onCreate(savedInstanceState)
```

```
        setContentView(R.layout.activity_main)
```

```
        // below code is to add on click
```

```
        // listener to our add name button
```

```
        addName.setOnClickListener{
```

```
            // below we have created
```

```
            // a new DBHelper class,
```



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```
// and passed context to it

val db = DBHelper(this, null)


// creating variables for values
// in name and age edit texts
val name = enterName.text.toString()
val age = enterAge.text.toString()


// calling method to add
// name to our database
db.addName(name, age)


// Toast to message on the screen
Toast.makeText(this, name + " added to database", Toast.LENGTH_LONG).show()


// at last, clearing edit texts
enterName.text.clear()
enterAge.text.clear()
}


// below code is to add on click
// listener to our print name button
printName.setOnClickListener{
```



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Class: TYIT

```
// creating a DBHelper class

// and passing context to it
val db = DBHelper(this, null)


// below is the variable for cursor
// we have called method to get
// all names from our database
// and add to name text view
val cursor = db.getName()


// moving the cursor to first position and
// appending value in the text view
cursor!!.moveToFirst()

Name.append(cursor.getString(cursor.getColumnIndex(DBHelper.NAME_COL)) +
"\n")

Age.append(cursor.getString(cursor.getColumnIndex(DBHelper.AGE_COL)) + "\n")


// moving our cursor to next
// position and appending values
while(cursor.moveToNext()){

    Name.append(cursor.getString(cursor.getColumnIndex(DBHelper.NAME_COL)) +
"\n")

    Age.append(cursor.getString(cursor.getColumnIndex(DBHelper.AGE_COL)) +
"\n")

}
```



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```
// at last we close our cursor  
cursor.close()  
  
}  
  
}  
  
}
```

activitymain.xml

```
<?xml version="1.0" encoding="utf-8"?>  
  
<LinearLayout  
    xmlns:android="http://schemas.android.com/apk/res/android"  
    xmlns:app="http://schemas.android.com/apk/res-auto"  
    xmlns:tools="http://schemas.android.com/tools"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    android:orientation="vertical"  
    tools:context=".MainActivity">  
  
    <!-- Edit text to enter name -->  
  
    <EditText  
        android:id="@+id/enterName"  
        android:layout_width="match_parent"
```




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Class: TYIT

```
android:layout_height="wrap_content"
```

```
android:hint="Enter Name"
```

```
android:textSize="22sp"
```

```
android:layout_margin="20sp"/>
```

```
<!-- Edit text to enter age -->
```

```
<EditText
```

```
    android:id="@+id/enterAge"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_margin="20sp"
```

```
    android:textSize="22sp"
```

```
    android:hint="Enter Age"/>
```

```
<!-- Button to add Name -->
```

```
<Button
```

```
    android:id="@+id/addName"
```

```
    android:layout_width="150sp"
```

```
    android:layout_gravity="center"
```

```
    android:background="@color/purple_200"
```

```
    android:text="Add Name"
```

```
    android:textColor="#ffffff"
```

```
    android:textSize="20sp"
```

```
    android:layout_height="wrap_content"
```



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Class: TYIT

```
android:layout_marginTop="20sp"/>
```

```
<!-- Button to print Name -->
```

```
<Button
```

```
    android:id="@+id/printName"
```

```
    android:layout_width="150sp"
```

```
    android:layout_gravity="center"
```

```
    android:background="@color/teal_700"
```

```
    android:text="Print Name"
```

```
    android:textColor="#ffffff"
```

```
    android:textSize="20sp"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginTop="20sp"/>
```

```
<LinearLayout
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content">
```

```
<!-- Text view to get all name -->
```

```
<TextView
```

```
    android:id="@+id/Name"
```

```
    android:textAlignment="center"
```

```
    android:layout_weight="1"
```

```
    android:layout_width="match_parent"
```



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Class: TYIT

```
android:layout_height="wrap_content"
```

```
android:layout_margin="20sp"
```

```
android:text="Name\n\n"
```

```
android:textSize="22sp"
```

```
android:padding="10sp"
```

```
android:textColor="#000000"/>
```

```
<!-- Text view to get all ages -->
```

```
<TextView
```

```
    android:layout_weight="1"
```

```
    android:id="@+id/Age"
```

```
    android:textAlignment="center"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_margin="20sp"
```

```
    android:text="Age\n\n"
```

```
    android:textSize="22sp"
```

```
    android:padding="10sp"
```

```
    android:textColor="#000000"/>
```

```
</LinearLayout>
```

```
</LinearLayout>
```



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Class: TYIT

OUTPUT:

pract8

Enter Name

Enter Age

ADD NAME

PRINT NAME

Name	Age
kavya	21