

Lab Exercise 15: Database

ActivityMain.java

```
package com.example.lab15;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText name, contact, dob;
    Button insert, update, delete, view;
    DBHelper DB;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name = findViewById(R.id.name);
        contact = findViewById(R.id.contact);
        dob = findViewById(R.id.dob);
        insert = findViewById(R.id.btnInsert);
        update = findViewById(R.id.btnUpdate);
        delete = findViewById(R.id.btnDelete);
        view = findViewById(R.id.btnView);
        DB = new DBHelper(this);
        insert.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String nameTXT = name.getText().toString();
                String contactTXT = contact.getText().toString();
                String dobTXT = dob.getText().toString();

                Boolean checkinsertdata = DB.insertuserdata(nameTXT, contactTXT,
dobTXT);
                if (checkinsertdata == true)
                    Toast.makeText(MainActivity.this, "New Entry Inserted",
Toast.LENGTH_SHORT).show();
                else
                    Toast.makeText(MainActivity.this, "New Entry Not Inserted",
Toast.LENGTH_SHORT).show();
            }
        });
        update.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String nameTXT = name.getText().toString();
                String contactTXT = contact.getText().toString();
                String dobTXT = dob.getText().toString();

                Boolean checkupdatedata = DB.updateuserdata(nameTXT, contactTXT,
dobTXT);
                if (checkupdatedata == true)
                    Toast.makeText(MainActivity.this, "Entry Updated",
Toast.LENGTH_SHORT).show();
                else
                    Toast.makeText(MainActivity.this, "New Entry Not Updated",
Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

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    }
    });
    delete.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            String nameTXT = name.getText().toString();
            Boolean checkdeletedata = DB.deletedata(nameTXT);
            if (checkdeletedata == true)
                Toast.makeText(MainActivity.this, "Entry Deleted",
                    Toast.LENGTH_SHORT).show();
            else
                Toast.makeText(MainActivity.this, "Entry Not Deleted",
                    Toast.LENGTH_SHORT).show();
        }
    });

    view.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View view) {
            Cursor res = DB.getdata();
            if (res.getCount() == 0) {
                Toast.makeText(MainActivity.this, "No Entry Exists",
                    Toast.LENGTH_SHORT).show();
                return;
            }
            StringBuffer buffer = new StringBuffer();
            while (res.moveToNext()) {
                buffer.append("Name : " + res.getString(0) + "\n");
                buffer.append("Contact : " + res.getString(1) + "\n");
                buffer.append("Date of Birth : " + res.getString(2) + "\n\n");
            }

            AlertDialog.Builder builder = new
            AlertDialog.Builder(MainActivity.this);
            builder.setCancelable(true);
            builder.setTitle("User Entries");
            builder.setMessage(buffer.toString());
            builder.show();
        }
    });
}
}
}

```

strings.xml

```

<resources>
    <string name="app_name">Lab15</string>
    <string name="view_data">View Data</string>
    <string name="delete_existing_data">Delete Existing Data</string>
    <string name="update_data">Update Data</string>
    <string name="insert_new_data">Insert New Data</string>
    <string name="date_of_birth">Date of Birth</string>
    <string name="contact">Contact</string>
    <string name="name">Name</string>
    <string name="please_enter_the_details_below">Please enter the details below</string>
</resources>

```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:padding="10dp"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textttitle"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="@string/please_enter_the_details_below"
        android:textSize="24sp" />

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textttitle"
        android:hint="@string/name"
        android:inputType="textPersonName"
        android:textSize="24sp" />

    <EditText
        android:id="@+id/contact"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/name"
        android:hint="@string/contact"
        android:inputType="number"
        android:textSize="24sp" />

    <EditText
        android:id="@+id/dob"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/contact"
        android:hint="@string/date_of_birth"
        android:inputType="number"
        android:textSize="24sp" />

    <Button
        android:id="@+id/btnInsert"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/dob"
        android:layout_marginTop="30dp"
        android:text="@string/insert_new_data"
        android:textSize="24sp" />

    <Button
        android:id="@+id/btnUpdate"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/btnInsert"
        android:text="@string/update_data"
        android:textSize="24sp" />

    <Button
        android:id="@+id/btnDelete"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/btnUpdate"
```

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        android:text="@string/delete_existing_data"
        android:textSize="24sp" />

<Button
    android:id="@+id/btnView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/btnDelete"
    android:text="@string/view_data"
    android:textSize="24sp" />
</RelativeLayout>

```

DBHelper.java

```

package com.example.lab15;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

import androidx.annotation.Nullable;

public class DBHelper extends SQLiteOpenHelper {
    public DBHelper(Context context) {
        super(context, "Userdata.db", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase DB) {
        DB.execSQL("create Table Userdetails(name TEXT primary key, contact TEXT, dob TEXT)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase DB, int i, int ii) {
        DB.execSQL("drop Table if exists Userdetails");
    }

    public Boolean insertuserdata(String name, String contact, String dob) {
        SQLiteDatabase DB = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put("name", name);
        contentValues.put("contact", contact);
        contentValues.put("dob", dob);
        long result = DB.insert("Userdetails", null, contentValues);
        if (result == -1) {
            return false;
        } else {
            return true;
        }
    }

    public Boolean updateuserdata(String name, String contact, String dob) {
        SQLiteDatabase DB = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put("contact", contact);
    }

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        contentValues.put("dob", dob);
        Cursor cursor = DB.rawQuery("Select * from Userdetails where name = ?", new
String[]{name});
        if (cursor.getCount() > 0) {
            long result = DB.update("Userdetails", contentValues, "name=?", new
String[]{name});
            if (result == -1) {
                return false;
            } else {
                return true;
            }
        } else {
            return false;
        }
    }

    public Boolean deletedata(String name) {
        SQLiteDatabase DB = this.getWritableDatabase();
        Cursor cursor = DB.rawQuery("Select * from Userdetails where name = ?", new
String[]{name});
        if (cursor.getCount() > 0) {
            long result = DB.delete("Userdetails", "name=?", new String[]{name});
            if (result == -1) {
                return false;
            } else {
                return true;
            }
        } else {
            return false;
        }
    }

    public Cursor getdata() {
        SQLiteDatabase DB = this.getWritableDatabase();
        Cursor cursor = DB.rawQuery("Select * from Userdetails", null);
        return cursor;
    }
}

```

OUTPUT

2:49

Lab15

Please enter the details below

Nishant

123456

22062000

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

New Entry Inserted

2:49

Lab15

Please enter the details below

Nishant

123456

06072000

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

Entry Updated

2:49

Lab15

Please enter the details below

Nishant

123456

22062000

User Entries

Name :Nishant
Contact :123456
Date of Birth :22062000

VIEW DATA

VIEW DATA

User Entries

Name :Nishant
Contact :123456
Date of Birth :06072000

VIEW DATA

2:50

Lab15

Please enter the details below

Nishant

123456

06072000

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

Entry Deleted

2:50

Lab15

Please enter the details below

Nishant

123456

06072000

INSERT NEW DATA

UPDATE DATA

DELETE EXISTING DATA

VIEW DATA

No Entry Exists