

Develop an application to store student details like id, name, email, branch to add, update, delete and retrieve student information using id. in SQLite databases.

Activity_main.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"
    android:layout_gravity="center"
    tools:context=".MainActivity">

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter the id"
        android:id="@+id/t1"/>

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="name"
        android:id="@+id/t2"/>

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="email"
        android:id="@+id/t3"/>

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Course"
        android:id="@+id/t4"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Insert Record"
        android:id="@+id/b1"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/b2"
        android:text="delete"/>

    <Button
        android:layout_width="wrap_content"
```

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        android:layout_height="wrap_content"
        android:text="get all data"
        android:id="@+id/b3"/>

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Update data"
    android:id="@+id/b4"/>
</LinearLayout>

```

Main_Activity.java

```

package com.example.myapplicationsqllitedb;

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

import android.content.Intent;
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 {
    Button b1,b2,b3,b4;
    EditText t1,t2,t3,t4;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1=findViewById(R.id.b1);
        b2=findViewById(R.id.b2);
        b3=findViewById(R.id.b3);
        b4=findViewById(R.id.b4);
        t2=findViewById(R.id.t2);
        t3=findViewById(R.id.t3);
        t1=findViewById(R.id.t1);
        t4=findViewById(R.id.t4);
    }
}

```

```

b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {

        DBManager db=new DBManager(MainActivity.this);
        String res=
db.addRecord(t1.getText().toString(),t2.getText().toString(),t3.getText().toString(),t4.ge
tText().toString());
        Toast.makeText(MainActivity.this, res, Toast.LENGTH_SHORT).show();
        t1.setText("");
        t2.setText("");
        t3.setText("");
        t4.setText("");

    }
});

```

```

b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        DBManager db=new DBManager(MainActivity.this);
        Integer deleteddata=db.deleteData(t1.getText().toString());
        if(deleteddata>0)
        {
            Toast.makeText(MainActivity.this, "deleted",
Toast.LENGTH_SHORT).show();
        }
        else
        {
            Toast.makeText(MainActivity.this, "Not Deleted",
Toast.LENGTH_SHORT).show();
        }
    }
});

```

```

b3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {

        DBManager db=new DBManager(MainActivity.this);
        Cursor res= db.getAllData();
        if(res.getCount()==0)
        {
            showMessage("error","nothinng");

            return;
        }
        StringBuffer str=new StringBuffer();

```

```

        while(res.moveToNext())
        {
            str.append("Id:="+res.getString(0)+"\n");
            str.append("name:="+res.getString(1)+"\n");
            str.append("email:="+res.getString(2)+"\n");
            str.append("course:="+res.getString(3)+"\n");
        }
        showMessage("Data",str.toString());
    }
});

b4.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        DBManager db=new DBManager(MainActivity.this);
        boolean
isupdate=db.UpdateData(t1.getText().toString(),t2.getText().toString(),t3.getText().toString()
,t4.getText().toString());

        if(isupdate==true)
        {
            Toast.makeText(MainActivity.this, "Data Updated",
Toast.LENGTH_SHORT).show();
        }
        else
        {
            Toast.makeText(MainActivity.this, "Data not Updated",
Toast.LENGTH_SHORT).show();
        }
    }
});
}

private void showMessage(String title, String message)
{
    AlertDialog.Builder builder=new AlertDialog.Builder(this);
    builder.setCancelable(true);
    builder.setTitle(title);
    builder.setMessage(message);
    builder.show();
}
}

```

Create a new class for Database Operation

DBManager.java

```
package com.example.myapplicationsqllitedb;

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 DBManager extends SQLiteOpenHelper {
    private static final String dbname="ThirdYear.db";
    public DBManager(@Nullable Context context) {
        super(context, dbname, null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        String qry="create table pramila(id integer primary key ,name text,email text,course
        text)";
        db.execSQL(qry);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
        db.execSQL("drop table if exists pramila");
        onCreate(db);
    }

    public String addRecord(String p,String p1,String p2,String p3)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues cv=new ContentValues();
        cv.put("id",p);
        cv.put("name",p1);
        cv.put("email",p2);
        cv.put("course",p3);
        long res =db.insert("pramila",null,cv);
        if(res==-1)
        {
            return "failed";
        }
        else
    }
```

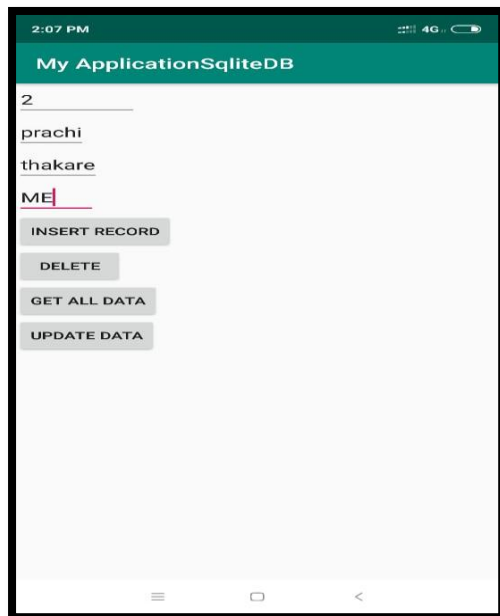
```
    {  
        return "success";  
    }  
}
```

```
public Cursor getAllData()  
{  
    SQLiteDatabase db=this.getWritableDatabase();  
    Cursor res=db.rawQuery("select * from '"+ "pramila",null);  
    return res;  
}
```

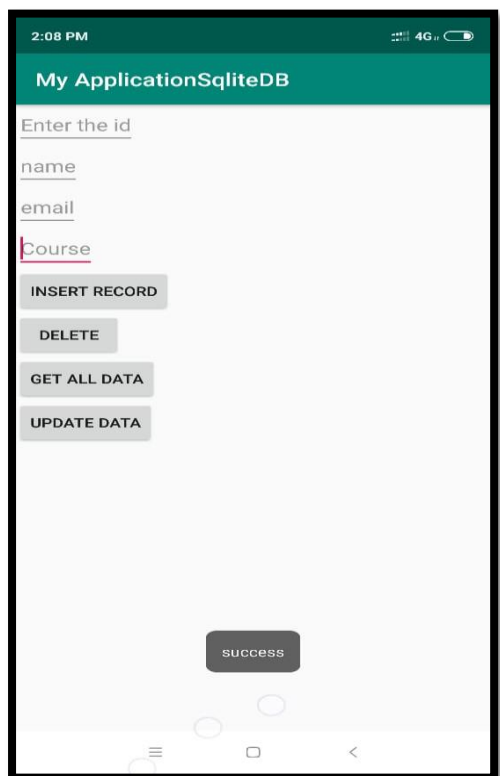
```
public Integer deleteData(String id)  
{  
    SQLiteDatabase db=this.getWritableDatabase();  
    return db.delete("pramila", "Id=?",new String[] {id});  
}
```

```
public boolean UpdateData(String pid,String pname,String pemail,String pcourse)  
{  
    SQLiteDatabase db=this.getWritableDatabase();  
    ContentValues cv=new ContentValues();  
    cv.put("id",pid);  
    cv.put("name",pname);  
    cv.put("email",pemail);  
    cv.put("course",pcourse);  
    db.update("pramila",cv,"id=?",new String[] {pid});  
    return true;  
}  
  
}
```

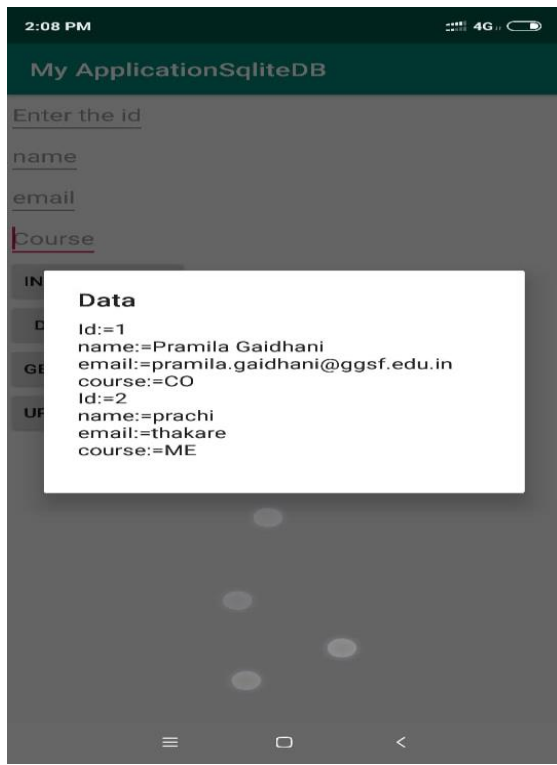
Output



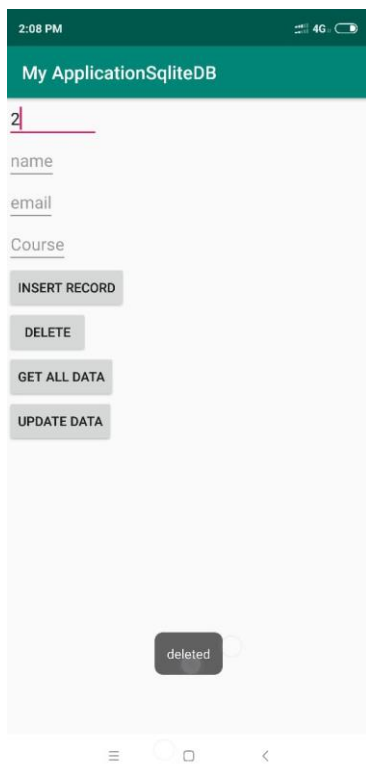
When you click on Insert Record Button



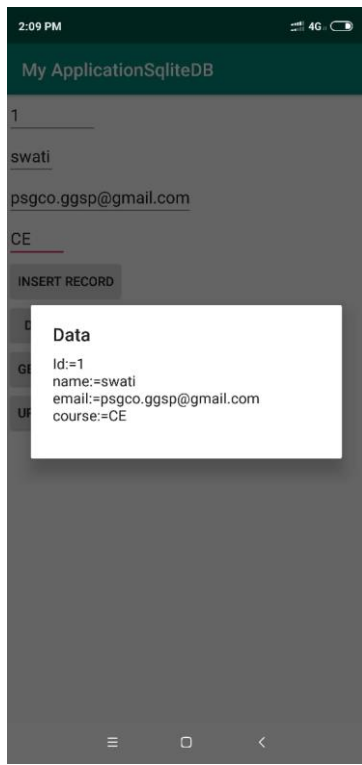
When you click on Get All Button



Enter the ID then click on Delete Button

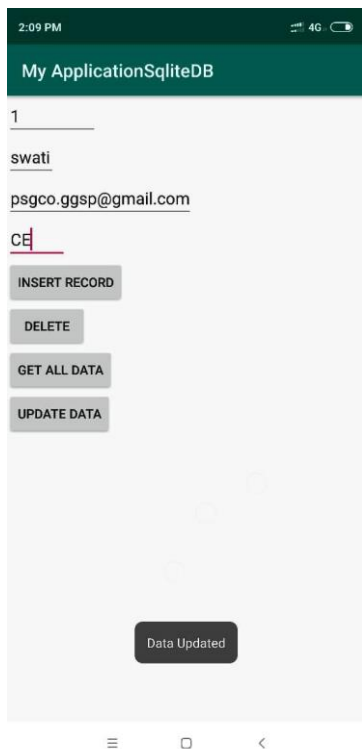


View the data



To update the record Enter Id and change its details

Then click update button



Then view the record

