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/*-----DATABASE-----*/
package com.example.databasesmysql;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
public class DBHelper extends SQLiteOpenHelper {
    public static final String DATABASE_NAME="Student.db";
    public static final String TABLE_NAME="Student_table";
    public static final String COL1="ID";
    public static final String COL2="NAME";
    public static final String COL3="ROLL";
    public static final String COL4="MARKS";
    public DBHelper(Context context){
        super(context,DATABASE_NAME,null,1);
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL("create table " + TABLE_NAME + " (ID INTEGER PRIMARY KEY
        AUTOINCREMENT,NAME TEXT,ROLL TEXT,MARKS INTEGER)");
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldversion, int newversion) {
        db.execSQL("DROP TABLE IF EXISTS "+TABLE_NAME);
        onCreate(db);
    }
    public boolean insertdata(String name,String roll,String marks)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues contentValues=new ContentValues();
        contentValues.put(COL2,name);
        contentValues.put(COL3,roll);
        contentValues.put(COL4,marks);
        long result=db.insert(TABLE_NAME,null,contentValues);
        if(result!=-1)
            return false;
        else
            return true;
    }
    public Cursor getAllData()
    {
        SQLiteDatabase db=this.getWritableDatabase();
        Cursor res=db.rawQuery("select * from "+TABLE_NAME,null);
        return res;
    }
    public boolean update(String id,String name,String roll,String marks)
    {
        SQLiteDatabase db=this.getWritableDatabase();
        ContentValues contentValues=new ContentValues();
        contentValues.put(COL1,id);
        contentValues.put(COL2,name);
        contentValues.put(COL3,roll);
        contentValues.put(COL4,marks);
    }

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db.update(TABLE_NAME,contentValues,"ID=?",new String[] {id});
return true;
}
public Integer delete(String id)
{
    SQLiteDatabase db=this.getWritableDatabase();
    return db.delete(TABLE_NAME,"ID=?",new String[] {id});
}
}
/*-----MAIN ACTIVITY-----*/
package com.example.databasesmysql;

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.TextView;
import android.widget.Toast;
import java.util.ArrayList;
public class MainActivity extends AppCompatActivity {
    DBHelper mydb;
    private TextView txt1,txt2,txt3;
    private EditText edittext,editText1,editText2,editText3;
    private Button btnsave,btndisplay,btndelete,btnupdate;
    ArrayList<Integer> al=new ArrayList<>();
    int sum=0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        edittext=(EditText)findViewById(R.id.edittext);
        editText1=(EditText)findViewById(R.id.edittext1);
        editText2=(EditText)findViewById(R.id.edittext2);
        editText3=(EditText)findViewById(R.id.edittext3);
        btnsave=(Button)findViewById(R.id.btnsave);
        btndisplay=(Button)findViewById(R.id.btndisplay);
        btndelete=(Button)findViewById(R.id.btndelete);
        btnupdate=(Button)findViewById(R.id.btnupdate);
        mydb=new DBHelper(this);
        btnsave.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                boolean isinserted=
                mydb.insertdata(edittext.getText().toString(),editText1.getText().toString(),editText2.getT
                ext().toString());
                if(isinserted==true)
                {
                    Toast.makeText(MainActivity.this,"Data is inserted",Toast.LENGTH_LONG).show();
                }
                else

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{
    Toast.makeText(MainActivity.this,"Data is not inserted",Toast.LENGTH_LONG).show();
}
});
btnDisplay.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
Cursor res = mydb.getAllData();
if (res.getCount() == 0) {
show("ERROR!!!", "nothing found");
}
StringBuffer buffer = new StringBuffer();
while (res.moveToNext()) {
buffer.append("ID:" + res.getString(0) + "\n");
buffer.append("NAME:" + res.getString(1) + "\n");
buffer.append("ROLL.NO:" + res.getString(2) + "\n");
buffer.append("MARKS:" + res.getString(3) + "\n");
al.add(Integer.parseInt(res.getString(3)));
}
show("Data", buffer.toString());
for(int i=0;i<al.size();i++)
{
sum=sum+al.get(i);
}
int average=sum/al.size();
Toast.makeText(MainActivity.this,"Average="+average,Toast.LENGTH_LONG).show();
show("Data",buffer.toString());
}
});
btnUpdate.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
boolean
isupdated=mydb.update(editText3.getText().toString(),edittext.getText().toString(),editTe
xt1.getText().toString(),editText2.getText().toString());
if(isupdated==true)
{
Toast.makeText(MainActivity.this,"Data is updated",Toast.LENGTH_LONG).show();
}
else {
Toast.makeText(MainActivity.this,"Data is not updated",Toast.LENGTH_LONG).show();
}
}
});
btnDelete.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View view) {
Integer deleterows=mydb.delete(editText3.getText().toString());
if(deleterows>0)
{
Toast.makeText(MainActivity.this,"Data Deleted",Toast.LENGTH LONG).show();
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    }
    else
    {
        Toast.makeText(MainActivity.this,"Data is not Deleted",Toast.LENGTH_LONG).show();
    }
    });
}

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

/*-----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"
tools:context=".MainActivity">
    <TextView
        android:id="@+id/textview"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="NAME:"
        android:textSize="35dp"
    />
    <EditText
        android:id="@+id/edittext"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/textview"/>
    <TextView
        android:id="@+id/textview1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ROLL.NO"
        android:textSize="35dp"
        android:layout_below="@id/edittext"
    />
    <EditText
        android:id="@+id/edittext1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@id/textview1"/>
    <TextView
        android:id="@+id/textview2"
        android:layout_width="wrap_content"

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android:layout_height="wrap_content"
android:text="MARKS:"
android:textSize="35dp"
android:layout_below="@id/edittext1"
/>
<EditText
android:id="@+id/edittext2"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@id/textview2"/>
<TextView
android:id="@+id/textview3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="ID:"
android:textSize="35dp"
android:layout_below="@id/edittext2"
/>
<EditText
android:id="@+id/edittext3"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_below="@id/textview3"/>
<Button
android:id="@+id/btnsave"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="INSERT"
android:textSize="30dp"
android:layout_below="@id/edittext3"/>
<Button
android:id="@+id/btndisplay"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="DISPLAY"
android:textSize="30dp"
android:layout_toRightOf="@id/btnsave"
android:layout_below="@id/edittext3"/>
<Button
android:id="@+id/btndelete"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="DELETE"
android:textSize="30dp"
android:layout_below="@id/btnsave"/>
<Button
android:id="@+id/btnupdate"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="UPDATE"
android:textSize="30dp"
android:layout_toRightOf="@id/btndelete"
android:layout_below="@id/btndisplay"/>
</RelativeLayout>
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