APP DEVELOPMENT

Lab Programs WEEK(4-6)
A.BINDU PRIYANKA
18131A0501
CSE-1

4.Develop an application that makes a Music player.

JAVA File

```java
package com.example.musicplayer_bindu;

import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    // Instantiating the MediaPlayer class
    MediaPlayer music;

    @Override
    protected void onCreate(
            Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // Adding the music file to our
        // newly created object music
        music = MediaPlayer.create(
                this, R.raw.sound);
    }

    // Playing the music
    public void musicplay(View v)
    {
        music.start();
```

```java
    }

    // Pausing the music
    public void musicpause(View v)
    {
        music.pause();
    }

    // Stopping the music
    public void musicstop(View v)
    {
        music.stop();
        music
                = MediaPlayer.create(
                this, R.raw.sound);
    }
}
```

XML File:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/activity_main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:theme="@style/Theme.AppCompat"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="match_parent"
        android:layout_height="430dp"
        android:background="@drawable/background">

    </ImageView>


    <Button
        android:id="@+id/pause"
        style="@style/Widget.AppCompat.Button.Borderless.Colored"
        android:layout_width="125dp"
        android:layout_height="match_parent"
        android:background="@android:drawable/ic_media_pause"
        android:onClick="musicpause" />

    <Button
```
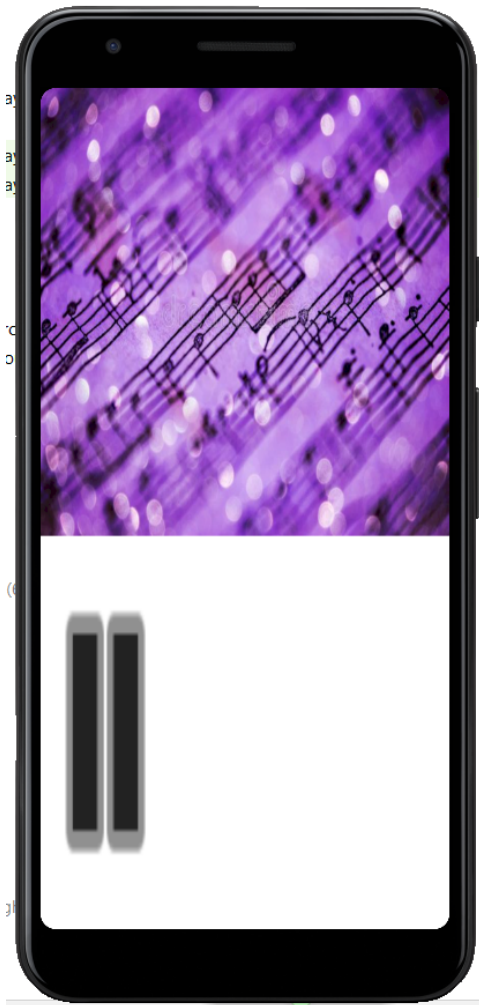
```
        android:id="@+id/start"
        style="@style/Widget.AppCompat.Button.Borderless"
        android:layout_width="125dp"
        android:layout_height="match_parent"
        android:background="@android:drawable/ic_media_play"
        android:onClick="musicplay" />

    <Button
        android:id="@+id/stop"
        style="@style/Widget.AppCompat.Button.Borderless"
        android:layout_width="125dp"
        android:layout_height="match_parent"
        android:background="@android:drawable/ic_delete"
        android:onClick="musicstop" />
</LinearLayout>
```

Output:

5.Implement an application that implements Multithreading.

JAVA File

```java
package com.example.multithreading;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity
{
    ImageView img;
    Button bt1,bt2;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        bt1 = (Button)findViewById(R.id.button);
        bt2= (Button) findViewById(R.id.button2);
        img = (ImageView)findViewById(R.id.imageView);

        bt1.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View v)
            {
                new Thread(new Runnable()
                {
```

```java
                @Override
                public void run()
                {
                    img.post(new Runnable()
                    {
                        @Override
                        public void run()
                        {
                            img.setImageResource(R.drawable.parrot);
                        }
                    });
                }
            }).start();
        }
    });

    bt2.setOnClickListener(new View.OnClickListener()
    {
        @Override
        public void onClick(View v)
        {
            new Thread(new Runnable()
            {
                @Override
                public void run()
                {
                    img.post(new Runnable()
                    {
                        @Override
                        public void run()
                        {
                            img.setImageResource(R.drawable.scenery);
                        }
                    });
                }
            }).start();
        }
    });
}
}
```

XML File:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical" >
```

```xml
<ImageView
    android:id="@+id/imageView"
    android:layout_width="300sp"
    android:layout_height="300sp"
    android:layout_gravity="center"
    android:layout_margin="50dp"
    android:background="#83E1ED" />

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_margin="10dp"
    android:text="image 1" />

<Button
    android:id="@+id/button2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center"
    android:layout_margin="10dp"
    android:text="image 2" />

<TextView
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20sp"
    android:layout_marginStart="30sp"
    android:layout_marginLeft="30sp"
    android:layout_marginBottom="15sp"
    android:background="#B9E0F1"
    android:text="18131A0501 Bindu Priyanka"
    android:textSize="30sp" />

</LinearLayout>
```
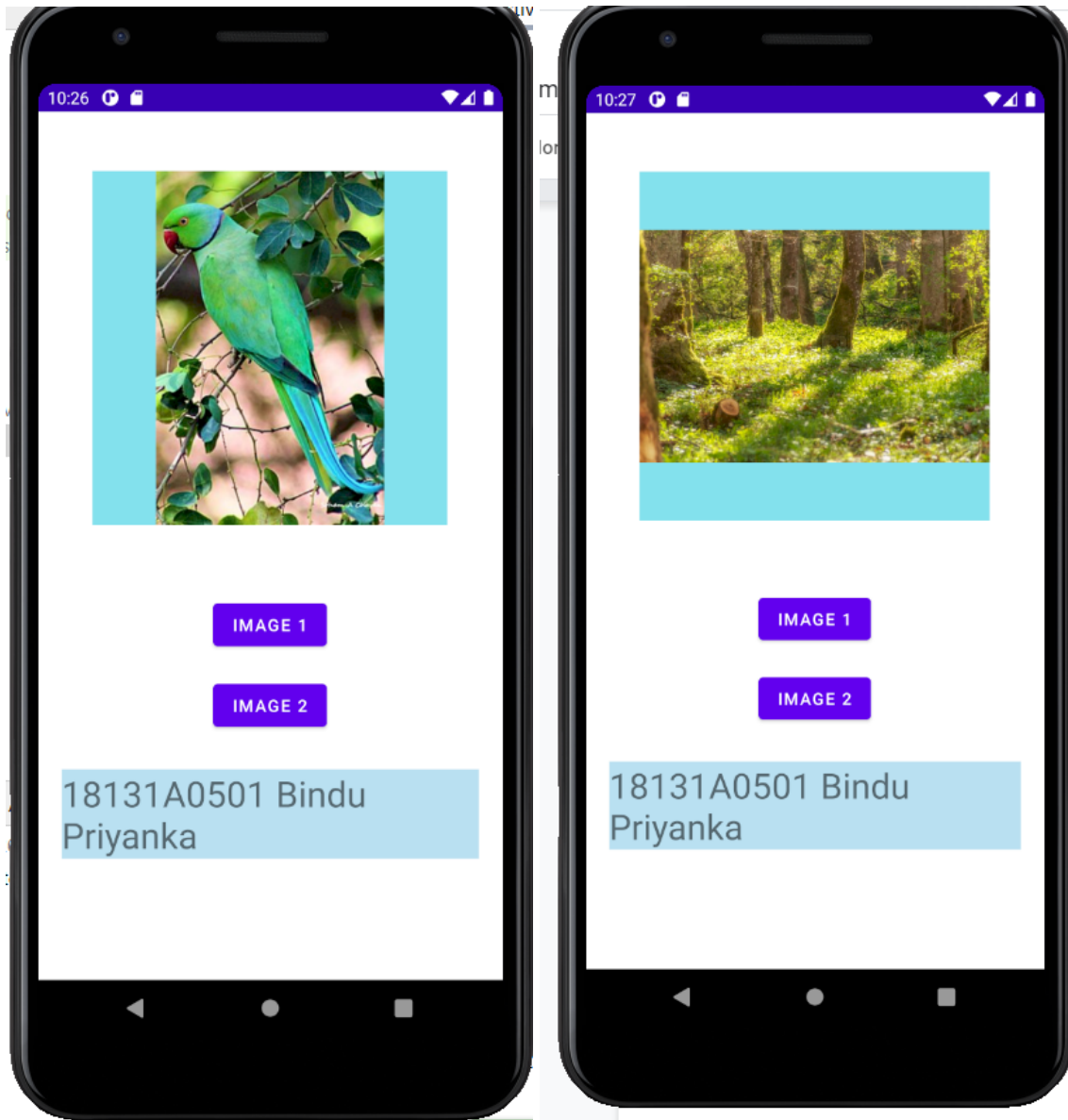
Output:

6.Develop an application that makes use of the database.

JAVA File:

```java
package com.example.databasebindu;

import android.app.Activity;
import android.app.AlertDialog.Builder;
import android.content.Context;
import android.database.Cursor;
```

```java
import android.database.sqlite.SQLiteDatabase;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity implements OnClickListener
{
    EditText Rollno,Name,Marks;
    Button Insert,Delete,Update,View,ViewAll;
    SQLiteDatabase db;
    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Rollno=(EditText)findViewById(R.id.Rollno);
        Name=(EditText)findViewById(R.id.Name);
        Marks=(EditText)findViewById(R.id.Marks);
        Insert=(Button)findViewById(R.id.Insert);
        Delete=(Button)findViewById(R.id.Delete);
        Update=(Button)findViewById(R.id.Update);
        View=(Button)findViewById(R.id.View);
        ViewAll=(Button)findViewById(R.id.ViewAll);

        Insert.setOnClickListener(this);
        Delete.setOnClickListener(this);
        Update.setOnClickListener(this);
        View.setOnClickListener(this);
        ViewAll.setOnClickListener(this);

        // Creating database and table
        db=openOrCreateDatabase("StudentDB", Context.MODE_PRIVATE, null);
        db.execSQL("CREATE TABLE IF NOT EXISTS student(rollno VARCHAR,name
VARCHAR,marks VARCHAR);");
    }
    public void onClick(View view)
    {
        // Inserting a record to the Student table
        if(view==Insert)
        {
            // Checking for empty fields
            if(Rollno.getText().toString().trim().length()==0||
                    Name.getText().toString().trim().length()==0||
                    Marks.getText().toString().trim().length()==0)
            {
```

```java
                showMessage("Error", "Please enter all values");
                return;
            }
            db.execSQL("INSERT INTO student
VALUES('"+Rollno.getText()+"','"+Name.getText()+
                    "','"+Marks.getText()+"');");
            showMessage("Success", "Record added");
            clearText();
        }
        // Deleting a record from the Student table
        if(view==Delete)
        {
            // Checking for empty roll number
            if(Rollno.getText().toString().trim().length()==0)
            {
                showMessage("Error", "Please enter Rollno");
                return;
            }
            Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
            if(c.moveToFirst())
            {
                db.execSQL("DELETE FROM student WHERE
rollno='"+Rollno.getText()+"'");
                showMessage("Success", "Record Deleted");
            }
            else
            {
                showMessage("Error", "Invalid Rollno");
            }
            clearText();
        }
        // Updating a record in the Student table
        if(view==Update)
        {
            // Checking for empty roll number
            if(Rollno.getText().toString().trim().length()==0)
            {
                showMessage("Error", "Please enter Rollno");
                return;
            }
            Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
            if(c.moveToFirst()) {
                db.execSQL("UPDATE student SET name='" + Name.getText() +
"',marks='" + Marks.getText() +
                        "' WHERE rollno='"+Rollno.getText()+"'");
                showMessage("Successful", "Record Modified");
            }
```

```java
            else {
                showMessage("Error", "Invalid Rollnumber");
            }
            clearText();
        }
        // Display a record from the Student table
        if(view==View)
        {
            // Checking for empty roll number
            if(Rollno.getText().toString().trim().length()==0)
            {
                showMessage("Error", "Please enter Rollno");
                return;
            }
            Cursor c=db.rawQuery("SELECT * FROM student WHERE
rollno='"+Rollno.getText()+"'", null);
            if(c.moveToFirst())
            {
                Name.setText(c.getString(1));
                Marks.setText(c.getString(2));
            }
            else
            {
                showMessage("Error", "Invalid Rollnumber");
                clearText();
            }
        }
        // Displaying all the records
        if(view==ViewAll)
        {
            Cursor c=db.rawQuery("SELECT * FROM student", null);
            if(c.getCount()==0)
            {
                showMessage("Error", "No records found");
                return;
            }
            StringBuffer buffer=new StringBuffer();
            while(c.moveToNext())
            {
                buffer.append("Rollno: "+c.getString(0)+"\n");
                buffer.append("Name: "+c.getString(1)+"\n");
                buffer.append("Marks: "+c.getString(2)+"\n\n");
            }
            showMessage("Student Details", buffer.toString());
        }
    }
    public void showMessage(String title,String message)
    {
        Builder builder=new Builder(this);
```

```java
        builder.setCancelable(true);
        builder.setTitle(title);
        builder.setMessage(message);
        builder.show();
    }
    public void clearText()
    {
        Rollno.setText("");
        Name.setText("");
        Marks.setText("");
        Rollno.requestFocus();
    }
}
```

XML File:

```xml
<?xml version="1.0" encoding="utf-8"?>
< xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#A9D2E4">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="50dp"
        android:layout_y="20dp"
        android:text="Student Information"
        android:textSize="30sp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="110dp"
        android:text="Enter Rollno:"
        android:textSize="20sp" />

    <EditText
        android:id="@+id/Rollno"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="100dp"
        android:inputType="number"
        android:textSize="20sp" />

    <TextView
```

```xml
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="160dp"
        android:text="Enter Name:"
        android:textSize="20sp" />

    <EditText
        android:id="@+id/Name"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="150dp"
        android:inputType="text"
        android:textSize="20sp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_x="20dp"
        android:layout_y="210dp"
        android:text="Enter Marks:"
        android:textSize="20sp" />

    <EditText
        android:id="@+id/Marks"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="175dp"
        android:layout_y="200dp"
        android:inputType="number"
        android:textSize="20sp" />

    <Button
        android:id="@+id/Insert"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="25dp"
        android:layout_y="300dp"
        android:text="Insert"
        android:textSize="30dp" />

    <Button
        android:id="@+id/Delete"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="200dp"
        android:layout_y="300dp"
        android:text="Delete"
```

```xml
        android:textSize="30dp" />

    <Button
        android:id="@+id/Update"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="25dp"
        android:layout_y="400dp"
        android:text="Update"
        android:textSize="30dp" />

    <Button
        android:id="@+id/View"
        android:layout_width="150dp"
        android:layout_height="wrap_content"
        android:layout_x="200dp"
        android:layout_y="400dp"
        android:text="View"
        android:textSize="30dp" />

    <Button
        android:id="@+id/ViewAll"
        android:layout_width="200dp"
        android:layout_height="wrap_content"
        android:layout_x="100dp"
        android:layout_y="500dp"
        android:text="View All"
        android:textSize="30dp" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="131dp"
        android:layout_height="wrap_content"
        android:layout_x="37dp"
        android:layout_y="614dp"
        android:text="18131A05H1"
        android:textColorHighlight="#EADBD9"
        android:textSize="20sp" />
```

Output:

Student Information

Enter Rollno:

Enter Name:

Enter Marks:

Student Details

Rollno: 18501
Name: Bindu
Marks: 99

VIEW ALL

1	2	3	-
4	5	6	⎵
7	8	9	⊗
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