FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY (FISAT)™

HORMIS NAGAR, MOOKKANNOOR

ANGAMALY-683577

'**FOCUS ON EXCELLENCE**'

MOBILE APPLICATION DEVELOPMENT LAB

.....

LABORATORY RECORD

Name: VISMAYA K SHABU

Branch: MASTER OF COMPUTER APPLICATION

Semester: 3 **Batch: B** **Roll No: 57**

FEDERAL INSTITUTE OF

SCIENCE AND TECHNOLOGY

(FISAT)™ HORMIS NAGAR,

MOOKKANNOOR

ANGAMALY-683577

'FOCUS ON EXCELLENCE'

Name : VISMAYA K SHABU

Branch : MASTER OF COMPUTER APPLICATION

Semester : 3 **Roll No: 57**

University Exam.Reg. No:

CERTIFICATE

This is to certify that this is a Bonafide record of the Practical work done and submitted to Kerala Technological University in partial fulfillment for the award of the Master Of Computer Applications is a record of the original research work done by ***VISMAYA K SHABU*** *in the* ***Mobile Application Development*** *Laboratory of the Federal Institute of Science and Technology during the academic year 2021-2022.*

Signature of Staff in Charge

Name:

Date:

Signature of H.O.D

Name:

Date of University practical examination ……

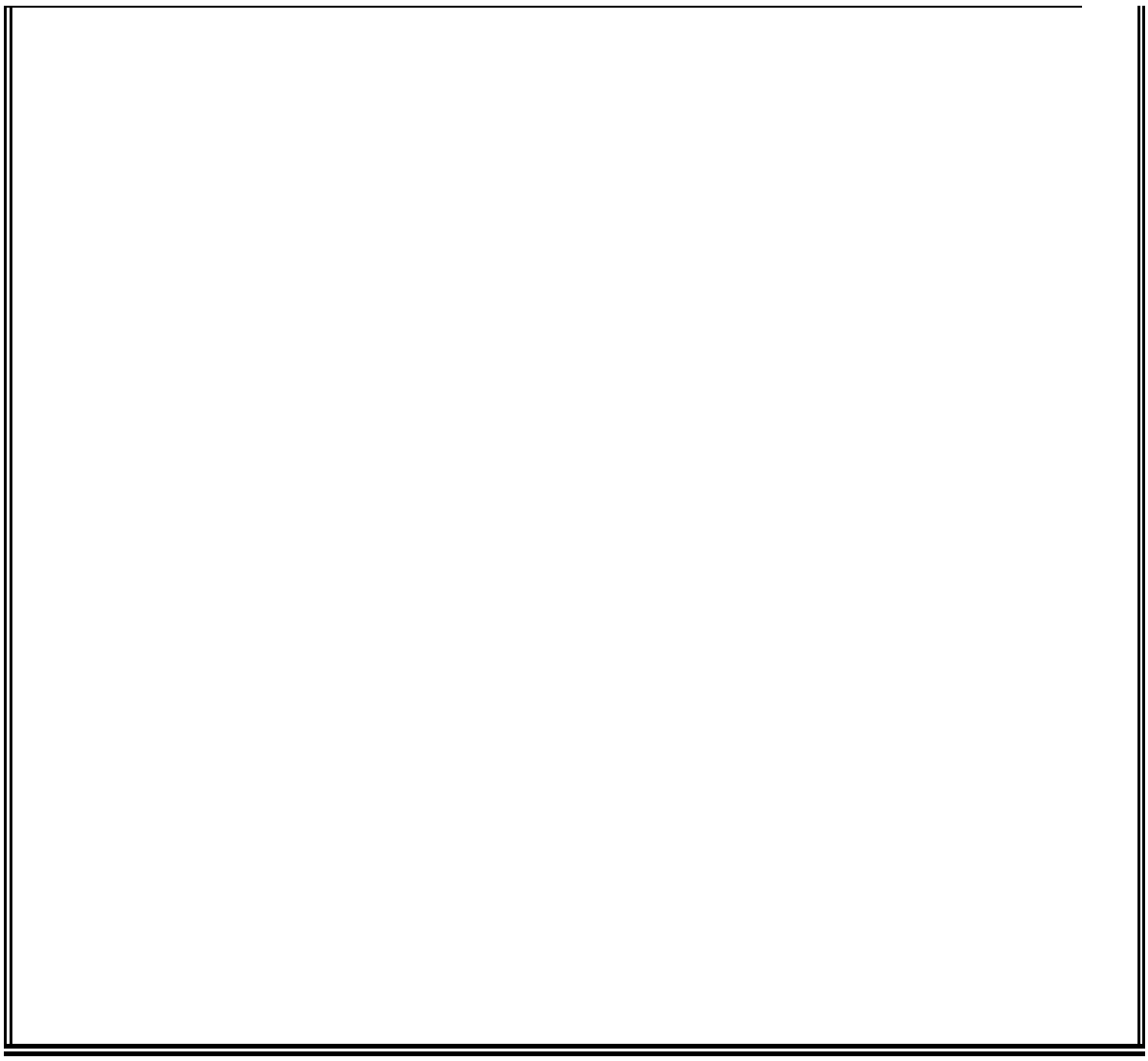
Signature of

Internal Examiner

Signature of

External Examiner

CONTENT



PROGRAM 1:

Create a Simple Calculator for demonstrating the basic arithmetic operations (+ , - , * , /)

PROCEDURE:

step 1: Start

step 2: Create the xml file .Drag and drop the 2 edittext and 4 button for the arithemetic calculation such as adition, subtraction,division, multiplication.then drag and drop the textview field to view the calculated result.

Step 3: Create the java code file to perform the calculation its initialize the edit Test,button and textview then create the object of each one.

Step 4: Read the two number and it pass to the switch case do the neccesory operation.

Step 5: Display the result on the textview field. Step 6: Stop.

MainActivity.java:

```
package com.example.calculator;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle; import
android.text.TextUtils; import android.view.View;
import android.widget.Button; import
android.widget.EditText; import
android.widget.TextView;

public class MainActivity extends AppCompatActivity implements View.OnClickListener{


    EditText etNum1;
    EditText etNum2;

    Button btnAdd;
    Button btnSub;
    Button btnMult;
    Button btnDiv;

    TextView tvResult;

    String oper = "";

    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState) {
       super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);
```

```
        // find the elements
        etNum1 = (EditText) findViewById(R.id.etNum1); etNum2
        = (EditText) findViewById(R.id.etNum2);

        btnAdd = (Button) findViewById(R.id.btnAdd); btnSub
        = (Button) findViewById(R.id.btnSub); btnMult =
        (Button) findViewById(R.id.btnMult); btnDiv =
        (Button) findViewById(R.id.btnDiv);
tvResult = (TextView) findViewById(R.id.tvResult);

        // set a listener
        btnAdd.setOnClickListener(this); btnSub.setOnClickListener(this);
        btnMult.setOnClickListener(this);
        btnDiv.setOnClickListener(this);

    }

    @Override
    public void onClick(View v) {
      // TODO Auto-generated method stub
      float num1 = 0;
      float num2 = 0;
      float result = 0;

      // check if the fields are empty if
      (TextUtils.isEmpty(etNum1.getText().toString())
            || TextUtils.isEmpty(etNum2.getText().toString())) {
        return;
      }
      // read EditText and fill variables with numbers
      num1 = Float.parseFloat(etNum1.getText().toString());
      num2 = Float.parseFloat(etNum2.getText().toString());

      // defines the button that has been clicked and performs the corresponding
  operation
      // write operation into oper, we will use it later for output
      switch (v.getId()) { case R.id.btnAdd:
          oper = "+";
          result = num1 + num2;
          break;
        case R.id.btnSub:
          oper = "-"; result =
          num1 - num2; break;
        case R.id.btnMult:
          oper = "*"; result =
          num1 * num2;
```

```
            break;
        case R.id.btnDiv:
            oper = "/";


            result = num1 / num2;
            break;
        default:
            break;
      }

      // form the output line tvResult.setText(num1 + " " + oper + "
      " + num2 + " = " + result);
    }
  }
```

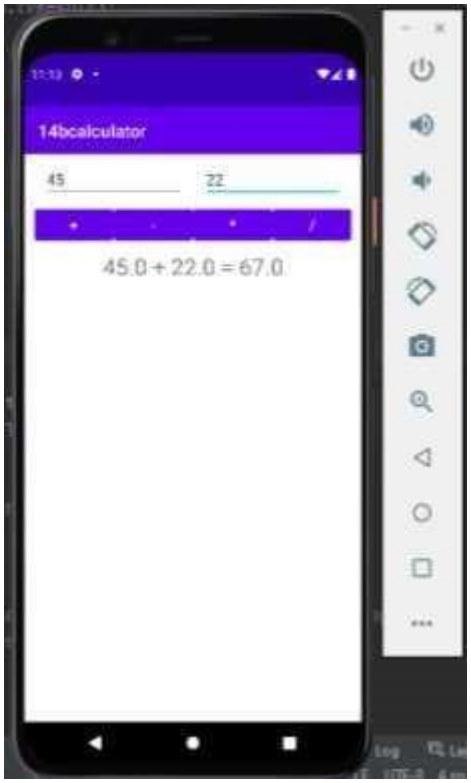
Activity_main.xml:

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

   android:orientation="vertical" android:layout_width="fill_parent"
   android:layout_height="fill_parent"
   android:weightSum="1">
   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/linearLayout1"
      android:layout_marginLeft="10pt"
      android:layout_marginRight="10pt"
      android:layout_marginTop="3pt">
      <EditText android:layout_weight="1"
         android:layout_height="wrap_content"
         android:layout_marginRight="5pt" android:id="@+id/etNum1"
         android:layout_width="match_parent"
         android:inputType="numberDecimal">
      </EditText>
      <EditText
       android:layout_height="wrap_content"
       android:layout_weight="1"
       android:layout_marginLeft="5pt"
       android:id="@+id/etNum2"
       android:layout_width="match_parent"
       android:inputType="numberDecimal">
       </EditText>
    </LinearLayout>
   <LinearLayout
      android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
    android:id="@+id/linearLayout2"
    android:layout_marginTop="3pt"
    android:layout_marginLeft="5pt"
    android:layout_marginRight="5pt">
    <Button
       android:layout_height="wrap_content"
       android:layout_width="match_parent"
       android:layout_weight="1"
       android:text="+" android:textSize="8pt"
       android:id="@+id/btnAdd">
    </Button>
    <Button
       android:layout_height="wrap_content"
       android:layout_width="match_parent"
       android:layout_weight="1" android:text="-
       " android:textSize="8pt" android:id="@+id/btnSub">
    </Button>
    <Button
       android:layout_height="wrap_content"
       android:layout_width="match_parent"
       android:layout_weight="1"
       android:text="*" android:textSize="8pt"
       android:id="@+id/btnMult">
    </Button>
    <Button
       android:layout_height="wrap_content"
       android:layout_width="match_parent"
       android:layout_weight="1"
       android:text="/" android:textSize="8pt" android:id="@+id/btnDiv">


    </Button>
  </LinearLayout>
  <TextView android:layout_height="wrap_content"
    android:layout_width="match_parent"
    android:layout_marginLeft="5pt"
    android:layout_marginRight="5pt"
    android:textSize="12pt"
    android:layout_marginTop="3pt"
    android:id="@+id/tvResult"
    android:gravity="center_horizontal"
    android:layout_weight="0.07">
```

```
    </TextView>
</LinearLayout>
```

OUTPUT:



PROGRAM 2:

Create an application to concatenate two given Strings.
(Consider changing the color of the result string to GREEN*)

Procedure:

Step 1: Start.

Step 2: Create a XML file. Drag and drop 2 EditText to enter 2 strings and 1 Button to concatenate the strings. Then drag and drop a TextView to view the concatenated string.

Step 3: Create a JAVA file to perform concatenation. First initialize the 2 EditText, Button and TextView then create object for each one.

Step 4: Read 2 strings and perform concatenation ('+') operation with those strings.

Step 5: Display the concatenated string on the TextView field. Step 6:
Stop.

MainActivity.java:

```
package
com.example.a14bstrconcat;   import
android.os.Bundle;           import
android.text.TextUtils;      import
android.view.View;           import
android.widget.Button;       import
android.widget.EditText;     import
android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity; public class MainActivity extends

AppCompatActivity implements View.OnClickListener{ EditText

    etNum11;
   EditText   etNum22;

   Button    btnconcat;

   TextView   tvResult;

   String oper = "";

   /** Called when the activity is first created. */
```

```
    @Override

    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        // find the elements etNum11= (EditText)
        findViewById(R.id.etNum11); etNum22= (EditText)
        findViewById(R.id.etNum22);

        btnconcat = (Button) findViewById(R.id.btnconcat); tvResult =

        (TextView) findViewById(R.id.tvResult);

        // set a listener
        btnconcat.setOnClickListener(this);

    }

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        String S1 = "";
        String S2 = "";

        // check if the fields are empty
        if (TextUtils.isEmpty(etNum11.getText().toString())
                || TextUtils.isEmpty(etNum22.getText().toString())) {
            return;
        }
        // read EditText and fill variables with numbers S1 =
        etNum11.getText().toString();
        S2 = etNum22.getText().toString();


        // form the output line tvResult.setText(S1
        +" "+S2);
    }
}
```

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="fill_parent"
    android:layout_height="fill_parent" android:weightSum="1">
```

```
        <LinearLayout android:id="@+id/linearLayout11"
            android:layout_width="wrap_content"
            android:layout_height="159dp"
            android:layout_marginLeft="10pt"
            android:layout_marginTop="3pt"
            android:layout_marginRight="10pt"
android:orientation="horizontal">

            <EditText android:id="@+id/etNum11"

                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:ems="10"
                android:inputType="textPersonName" android:text="Name"
                />

            <EditText android:id="@+id/etNum22"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:ems="10"
                android:inputType="textPersonName" android:text="Name"
                />

        </LinearLayout>

        <LinearLayout android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/linearLayout2"
            android:layout_marginTop="3pt"
            android:layout_marginLeft="5pt"
            android:layout_marginRight="5pt">
            <Button android:layout_height="wrap_content"
                android:layout_width="match_parent"
                android:layout_weight="1"
                android:text="+" android:textSize="8pt"
                android:id="@+id/btnconcat">
            </Button>
        </LinearLayout>
        <TextView android:layout_height="wrap_content"
            android:layout_width="match_parent"
            android:layout_marginLeft="5pt"
            android:layout_marginRight="5pt"
```

```
      android:textSize="12pt"
      android:layout_marginTop="3pt"
      android:id="@+id/tvResult"
      android:gravity="center_horizontal"

        android:layout_weight="0.07">
    </TextView>
 </LinearLayout>
```

OUTPUT:

PROGRAM 3:

Create an android application to find the factorial of a given number.

Procedure:

Step 1: Start

Step 2: Create a XML file. Drag and drop a EditText to enter the number, a Button to find factorial and a TextView to display the result.

Step 3: Create a JAVA file to find factorial. First initialize the the EditText, Button and TextView then create object for each one.

Step 4: Read the number and perform necessary operations to find factorial. Step 5:

Display the result on the TextView field.

Step 6: Stop.

MainActivity.java

```
package com.example.factorial;
import androidx.appcompat.app.AppCompatActivity;import android.view.View; import
android.widget.Button;
import android.widget.EditText;import android.widget.TextView;import android.os.Bundle;

public class MainActivity extends AppCompatActivity implementsView.OnClickListener { EditText

etNum1; Button btnAdd; TextView tvResult;String oper = "";
/**

 * Called when the activity is first created.

 */

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

// find the elements

    etNum1 = (EditText) findViewById(R.id.etNum1);

    btnAdd = (Button) findViewById(R.id.btnAdd); tvResult = (TextView)
    findViewById(R.id.tvResult);
```

```
// set a listener
            btnAdd.setOnClickListener(this);
        }
        @Override
        public void onClick(View v) {
// TODO Auto-generated method stud
            float num1 = 0; float fact = 1; float result = 0;
// check if the fields are empty

            num1 = Float.parseFloat(etNum1.getText().toString());
// read EditText and fill variables with numbers

// defines the button that has been clicked and performs the correspondingoperation
// write operation into oper, we will use it later for output
            switch (v.getId()) { case R.id.btnAdd:
                    oper = "+";
                    for (int i = 1; i <= num1; i++) {fact = fact * i;
                    }

                    result = fact;break;
                default:
                    break;
            }
// form the output line

            tvResult.setText("Factorial of" + " " + num1 + " = " + result);
        }
}
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"  android:layout_height="fill_parent"
    android:orientation="vertical" android:weightSum="1">

    <LinearLayout android:id="@+id/linearLayout1"
        android:layout_width="match_parent"
```

```
        android:layout_height="wrap_content"                    android:layout_marginLeft="10pt"
        android:layout_marginTop="3pt" android:layout_marginRight="10pt">

        <EditText    android:id="@+id/etNum1"    android:layout_width="wrap_content"
    android:layout_height="wrap_content"                android:layout_marginRight="5pt"
    android:layout_weight="1"            android:inputType="numberDecimal"></EditText>
    </LinearLayout>

    <LinearLayout android:id="@+id/linearLayout2"
android:layout_width="match_parent"
android:layout_height="wrap_content" android:layout_marginLeft="5pt"
android:layout_marginTop="3pt" android:layout_marginRight="5pt">
<Button
android:id="@+id/btnAdd"                                    android:layout_width="match_parent"
android:layout_height="wrap_content"        android:layout_weight="1"        android:text="RESULT"
android:textSize="8pt"></Button>
    </LinearLayout>
<TextView            android:id="@+id/tvResult"            android:layout_width="match_parent"
android:layout_height="wrap_content"                        android:layout_marginLeft="5pt"
android:layout_marginTop="3pt"    android:layout_marginRight="5pt"    android:layout_weight="0.07"
android:gravity="center_horizontal" android:textSize="12pt"></TextView> </LinearLayout>
```

OUTPUT :

PROGRAM 4:

Develop a canvas to draw different shapes and to fill the shapeswith different colors.

Procedure:

Step 1: Start.

Step 2: Create 2 JAVA files. CustomView.java for create the shape and set colour it using paint and
MainActivity.java for display the shape using setContentView.

Step 3: Enter the required measures for the shape and create it then set colour for the shape.

Step 4: Display the shape using setContentView in MainActivity.java file. Step 5:

Stop

MainActivity.java

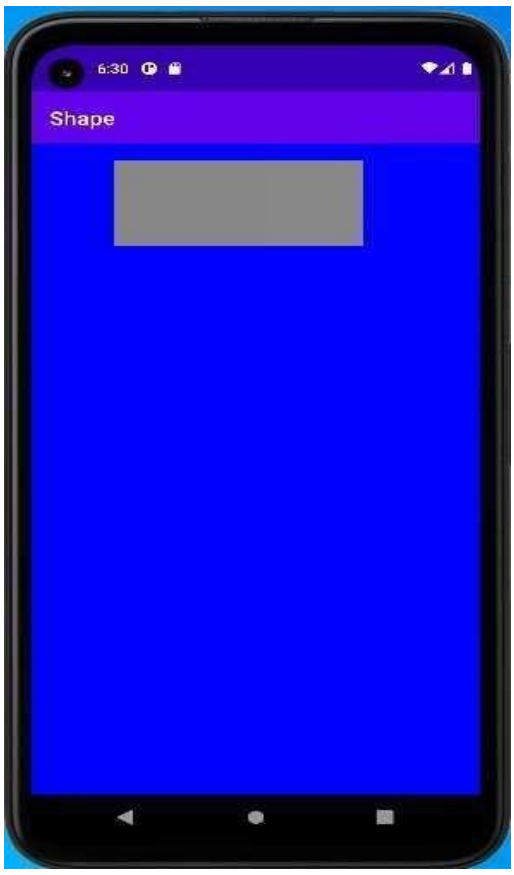
```
package com.example.shape;

import androidx.appcompat.app.AppCompatActivity;import android.os.Bundle;
public class MainActivity extends AppCompatActivity {@Override protected void
onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);
        setContentView(new com.example.shape.CustomView(this));
    }
}
```

CustomView.java

```
package com.example.shape;
import android.content.Context;import android.graphics.Canvas;import
    android.graphics.Color; import android.graphics.Paint; import android.graphics.Rect; import
    android.view.View;
    public class CustomView extends View {private Rect rectangle; private
        Paint paint, p1;

        public CustomView(Context context) {super(context); int x
            = 200;int y = 50;
            int width = 800; int height = 300;
```

```
        //create a rectangle that we'll draw later

        rectangle = new Rect(x, y, width, height);

        // create the Paint and set its colorpaint = new Paint();
        paint.setColor(Color.GRAY);


        p1 = new Paint(); p1.setColor(Color.RED);
    }

    @Override
    protected void onDraw(Canvas canvas) {canvas.drawColor(Color.BLUE);
        canvas.drawRect(rectangle, paint);
    }

}
```

OUTPUT :



PROGRAM 5:

Create an application to show happy face smiley and sad face smiley to demonstrate button click Events.

Procedure:

Step 1: Start

Step 2: Create two activity with buttons.

Step 3: Create a main activity JAVA file which direct the page to another page on the click of the button from the activity main.

Step 4: Create another activity java smily with to navigate with the onclick listener to main activity page.

Step 5: Create face view class two draw the smily with dimension for happy face with canva

drawColor,draw circle,Oval,drawArch.

Step 6: Create another face view to draw the smily with dimensions for sad face with canva

drawColor,draw circle,Oval,drawArch.

Step 7: Stop.

MainActivity.java

```
package com.example.a5happyface;
import androidx.appcompat.app.AppCompatActivity;import android.content.Intent; import
android.os.Bundle; import android.view.View; import android.widget.Button; public class
MainActivity extends AppCompatActivity {Button button;

        @Override protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState); setContentView(R.layout.activity_main); button =
        (Button) findViewById(R.id.button); button.setOnClickListener(new View.OnClickListener()
        {
                @Override
                public void onClick(View v) {openNewActivity();
                }
            });

        }
public void openNewActivity() {
                Intent intent = new Intent(this, MainActivity2.class);startActivity(intent);
        }
    }
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
 <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:tools="http://schemas.android.com/tools" android:layout_width="wrap_content"
        android:layout_height="wrap_content" android:orientation="vertical"
        tools:context=".MainActivity">
        <com.example.a5happyface.FaceView android:layout_width="wrap_content"
              android:layout_height="wrap_content" />
        <Button android:id="@+id/button" android:layout_width="match_parent"


              android:layout_height="wrap_content" android:text="---> Sad Face" />
</RelativeLayout>
```

MainActivity2.java

```
package com.example.a5happyface;

import android.content.Intent;import android.os.Bundle; import android.view.View; import
android.widget.Button;
import androidx.appcompat.app.AppCompatActivity; public class MainActivity2 extends
AppCompatActivity {
        Button button1;@Override
        protected void onCreate(Bundle savedInstanceState)
        { super.onCreate(savedInstanceState); setContentView(R.layout.activity_main2); button1
                =    (Button)    findViewById(R.id.button1);    button1.setOnClickListener(new
              View.OnClickListener() { @Override
                    public void onClick(View v) {openNewActivity();
                    }
              });


        }
        public void openNewActivity(){
              Intent intent1 = new Intent(this,MainActivity.class);startActivity(intent1);
        }
}
```

Activity_main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
 <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
        android:layout_width="match_parent"
android:layout_height="match_parent">
        <com.example.a5happyface.FaceView2                    android:layout_width="wrap_content"
              android:layout_height="wrap_content" />
        <Button android:id="@+id/button1" android:layout_width="match_parent"
android:layout_height="wrap_content"    android:text="--->   Happy   Face"   />
</RelativeLayout>
```

FaceView.java

```
package com.example.a5happyface;


import android.content.Context; import android.graphics.Canvas; import android.graphics.Color; import
android.graphics.Paint; import android.graphics.RectF; import android.util.AttributeSet;import
android.view.View;
public class FaceView extends View { private static final String COLOR_HEX = "WHITE";private final Paint
        mPaint; private float xPosition; private float yPosition; privatefloat radius; private float
        strokeWidth
        = 20; private float defaultScale = 0.90f; private float eyeRadius = 60; private float
        eyeYPosition; private float leftEyeXPosition;private float rightEyeXPosition; public
        FaceView(Context context, AttributeSet attrs) {super(context, attrs); mPaint =
              new Paint(); mPaint.setAntiAlias(true);
        }


        @Override
        protected void onDraw(Canvas canvas) { super.onDraw(canvas);
              mPaint.setColor(Color.parseColor(COLOR_HEX));
              mPaint.setStrokeWidth(strokeWidth);
              mPaint.setStyle(Paint.Style.STROKE);              canvas.drawPaint(mPaint);
              canvas.drawColor(Color.BLACK); // drawing outer circle

              // lets setup x cord, y cord, radius

 // x, y position should point to center. //radius should be half the width

 / height


                    xPosition = getMeasuredWidth() / 2;yPosition = getMeasuredHeight() / 2; radius =
              xPosition < yPosition ? xPosition : yPosition ;radius *= defaultScale;
              canvas.drawCircle(xPosition,    yPosition,    radius,    mPaint);    //
              Drawing Eyes.

              // lets find eye y position
```

```
                eyeYPosition = (float) (yPosition / 1.2);
                // lets find eye x position
                leftEyeXPosition = xPosition < yPosition ? xPosition / 2 : (float)(xPosition / 1.3);
        // lets find right eye x position
                rightEyeXPosition = xPosition < yPosition ? xPosition + xPosition /
        2 :
                        xPosition + xPosition / 4;
                // left eye
                canvas.drawCircle(leftEyeXPosition, eyeYPosition, eyeRadius,
        mPaint);
                // right eye
                canvas.drawCircle(rightEyeXPosition, eyeYPosition, eyeRadius,mPaint);
                // lets draw mouth.
                RectF oval = new RectF(leftEyeXPosition, yPosition + yPosition /
        12,rightEyeXPosition, (float) (yPosition + yPosition / 2.5)); // left top
        rightbottom
                        canvas.drawArc(oval, 10, 150, false, mPaint); // happy
        face.
```

FaceView2.java

```
        package com.example.a5happyface;
import android.content.Context; import android.graphics.Canvas; import android.graphics.Color; import
        android.graphics.Paint; import android.graphics.RectF; import android.util.AttributeSet;import
        android.view.View;
        public class FaceView2 extends View { private static final String COLOR_HEX = "WHITE";private final Paint
                mPaint; private float xPosition; private float yPosition; privatefloat radius; private float
                strokeWidth
                = 20; private float defaultScale = 0.90f; private float eyeRadius = 60; private float
                eyeYPosition; private float leftEyeXPosition;private float rightEyeXPosition; public
                FaceView2(Context context, AttributeSet attrs)
                { super(context, attrs); mPaint = new Paint(); mPaint.setAntiAlias(true);
                }
                @Override
                protected void onDraw(Canvas canvas) { super.onDraw(canvas);
                        mPaint.setColor(Color.parseColor(COLOR_HEX));
                        mPaint.setStrokeWidth(strokeWidth);                mPaint.setStyle(Paint.Style.STROKE);
                        canvas.drawPaint(mPaint); canvas.drawColor(Color.BLACK);
```

```
                // drawing outer circle



                // lets setup x cord, y cord, radius
        // x, y position should point to center.
        // radius should be half the width / height xPosition = getMeasuredWidth() / 2; yPosition =
                getMeasuredHeight() / 2;
                radius = xPosition < yPosition ? xPosition : yPosition ;radius *= defaultScale;
                canvas.drawCircle(xPosition, yPosition, radius, mPaint); // Drawing Eyes.
                // lets find eye y position
                eyeYPosition = (float) (yPosition / 1.2);
                // lets find eye x position
                leftEyeXPosition = xPosition < yPosition ? xPosition / 2 : (float)(xPosition / 1.3);
                // lets find right eye x position
                    rightEyeXPosition = xPosition < yPosition ? xPosition + xPositio
      / 2 :


                xPosition + xPosition / 4;
        // left eye


canvas.drawCircle(leftEyeXPosition, eyeYPosition, eyeRadius,


      mPaint);
                // right eye
               canvas.drawCircle(rightEyeXPosition, eyeYPosition, eyeRadius,mPaint);
                // lets draw mouth.
                 RectF oval = new RectF(leftEyeXPosition, yPosition + yPosition /
rightEyeXPosition, (float) (yPosition + yPosition / 2)); //left top right bottom
                  canvas.drawArc(oval, 200, 140, false, mPaint); // sad face.


            }
      }
```

OUTPUT:

PROGRAM 6:

Create an application to demonstrate the use of Intents to communicate between different activity.

Procedures:

Implicit intent

Step1:create Xml file and Java file.

Step2:Open activity_main.xml file and add editText to input text and button to open web page in a constraint layout.Also add IDs for each component.

Step3:Open MainActivity.java file and instantiate the button created in the xml file using findViewById() method.This metod binds the created object to the UI components with the help of assigned ID.

Step4:To display toast message,first add listener on button and this button will open webpage.

Step5:Create string type variable to store the value of EditText.Value is accepted and converted to string.

Step7:Create an intent object Mainactivity.java class to of the webpage.

Step8:The start activity() method starts to call a webpage for opening specified by intent.

Explicit intent

Step1:create xml file and java file.

Step2:Open activity_main.xml and add a button for moving to second activity and aTextview for viewing some text.Also add IDs for each components.

Step3:Open MainActivity.java file and instantiate the button,textview created in the xml file using findViewByid.This

method binds the created object to the UI components with the assigned id.

Step4:To create explicit intent,first add the listener on button and using this button you will move to other activity.Now create an intent and start the targeted activity.

Step5:Now we have to create a second activity as a destination activity.

Step6:open second xml file.Add button and textview to moving back to home activity and to write some text on activity.Assign id to button and textview.

Step7:open second activity java file.first add the listener on button and using this button move to home activity.create an intent and start the targeted activity.

MainActivity.java

```
package com.example.a6intents; import androidx.appcompat.app.AppCompatActivity;import
android.content.Intent; import android.net.Uri; import android.os.Bundle; import
android.view.View; import android.widget.Button;

public class MainActivity extends AppCompatActivity {Button button;
    @Override protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);
        button=findViewById(R.id.button);
     //button.setOnClickListener(this);

    }
    public void show(View view){
            Intent intent = new Intent(Intent.ACTION_VIEW);
            intent.setData(Uri.parse("https://www.fisat.ac.in")); startActivity(intent);
    }
public void callSecondActivity(View view){
            Intent i=new Intent(getApplicationContext(),MainActivity2.class);startActivity(i);
    }
     }
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
```

```
xmlns:tools="http://schemas.android.com/tools"
xmlns:app="http://schemas.android.com/apk/res-auto"
android:layout_width="match_parent"  android:layout_height="match_parent"
tools:context=".MainActivity">                                          TextView
android:layout_width="wrap_content"  android:layout_height="wrap_content"
android:layout_marginEnd="8dp"              android:layout_marginStart="8dp"
android:layout_marginTop="8dp" android:text="First Activity"


app:layout_constraintBottom_toBottomOf="parent" app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.454"       app:layout_constraintLeft_toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"    app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" app:layout_constraintVertical_bias="0.06" />
<Button
  android:id="@+id/button" android:layout_width="wrap_content"
  android:layout_height="wrap_content" android:layout_marginEnd="8dp"
  android:layout_marginStart="8dp" android:layout_marginTop="392dp"
  android:onClick="callSecondActivity" android:text="Call second activity"
app:layout_constraintEnd_toEndOf="parent"                    app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />

<Button     android:id="@+id/button3" android:layout_width="wrap_content"
            android:layout_height="wrap_content" android:onClick="show" android:text="implicit
            intent"tools:layout_editor_absoluteX="135dp" tools:layout_editor_absoluteY="204dp" />
 </androidx.constraintlayout.widget.ConstraintLayout>
```

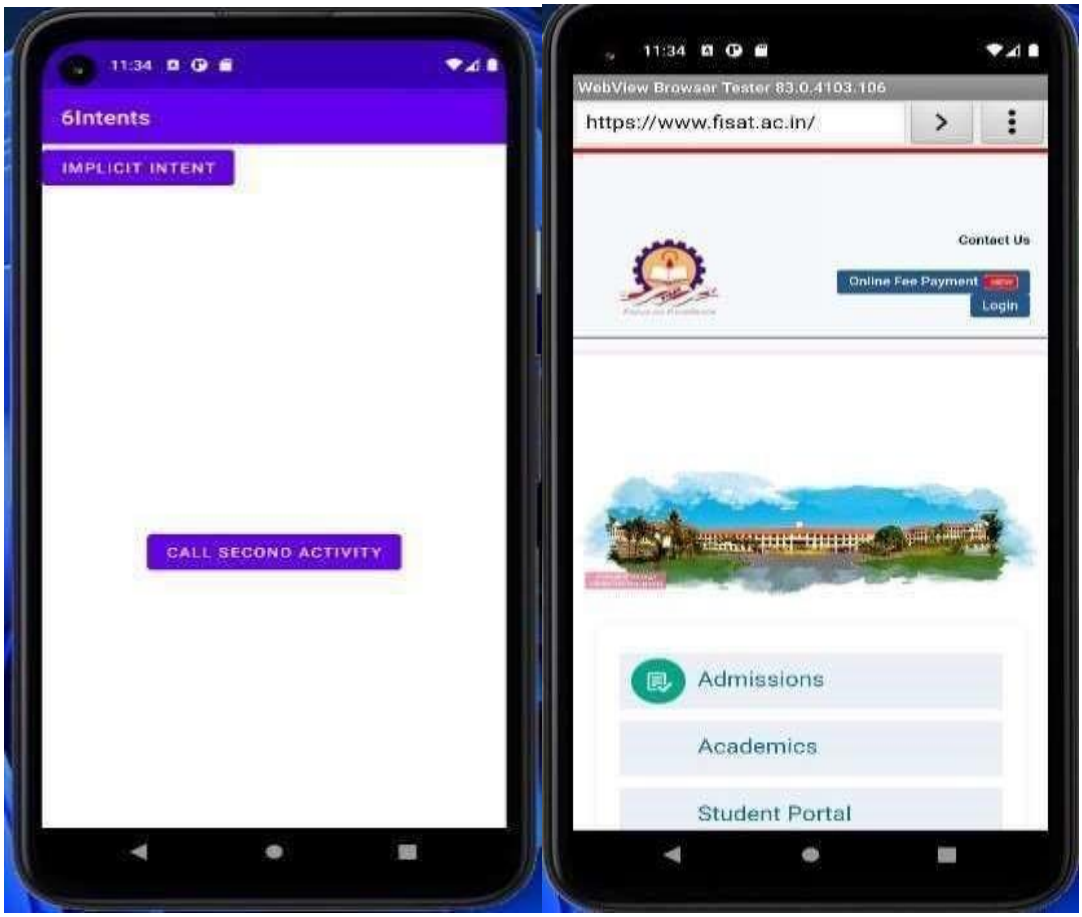
MainActivity2.java

```
package com.example.a6intents;
import    androidx.appcompat.app.AppCompatActivity;import    android.content.Intent;    import
      android.os.Bundle; import android.view.View; import android.widget.Button;
 public class MainActivity2 extends AppCompatActivity {Button button;
      @Override
      protected void onCreate(Bundle savedInstanceState)
            { super.onCreate(savedInstanceState); setContentView(R.layout.activity_main2);
            Bundle extras =
                  getIntent().getExtras();button=findViewById(R.id.button);
      }
      public void callFirstActivity(View view){
            Intent i=new Intent(getApplicationContext(),MainActivity.class);startActivity(i);
      }
       }
```

Activity_main2.xml

```
package com.example.a6intents;

import androidx.appcompat.app.AppCompatActivity;


import android.content.Intent;import android.os.Bundle; import android.view.View;import
android.widget.Button;
public class MainActivity2 extends AppCompatActivity {Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState)
        { super.onCreate(savedInstanceState); setContentView(R.layout.activity_main2);
            Bundle
                extras = getIntent().getExtras();button=findViewById(R.id.button);
    }
    public void callFirstActivity(View view){
            Intent i=new Intent(getApplicationContext(),MainActivity.class);startActivity(i);
    }
     }
```

OUTPUT:




11:35
6Intents
GO BACK TO 1ST ACTIVITY

PROGRAM 7:

Create an android application to demonstrate storing data intointernal phone memory.

Procedures:

Step1:create Xml file and Java file.

Step2:Open activity_main.xml file and add editText to input text and button to open web page in a constraint layout.

Step3:Open MainActivity.java file and instantiate the button and edittext created in the xml file using findViewById() method.This metod binds the created object to the UI components with the help of assigned ID.

Step4:To display the information null file should be created using FILEOUTPUTSTREAM.

Step5:Create string type variable to store the value of EditText.Value is accepted and converted to string.

Step7:Create an intent object Mainactivity.java class to open the webpage.

Step8:The start activity() method starts to call a webpage for opening specified by intent.

INTENT

Step1:create java file.

Step2:Open activity_main.xml and by using findViewById get the values passed from the first MainActivity.java file.

Step3:To create intent,first add the listener on button and using this button you will move to other activity.Now create an intent and start the targeted activity.

Step4:Using fileInputStream the intented file will display the content passed by the MainActivity.java file.

MainActivity.java

```
package com.example.a7storingdata;

import androidx.appcompat.app.AppCompatActivity;import android.os.Bundle;
import android.content.Context;import android.content.Intent; import android.view.View; import android.widget.EditText;import android.widget.Toast; import java.io.File; import java.io.FileOutputStream;import java.io.IOException;
```

```
public class MainActivity extends AppCompatActivity {EditText editname,editpass;
        @Override
        protected void onCreate(Bundle savedInstanceState) {
            super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);
            editname = (EditText) findViewById(R.id.editName);editpass= (EditText)
            findViewById(R.id.editPass);
        }

        public void save(View view)   // SAVE
        {
            File file= null;
            String name = editname.getText().toString(); String password = editpass.getText().toString();

            FileOutputStream fileOutputStream = null;try { name = name
                + " "; file = getFilesDir(); fileOutputStream =
                openFileOutput("Code.txt",
     Context.MODE_PRIVATE); //MODE PRIVATE

                fileOutputStream.write(name.getBytes());  fileOutputStream.write(password.getBytes());
                Toast.makeText(this, "Saved
                \n" + "Path --" + file +
      "\tCode.txt", Toast.LENGTH_SHORT).show();editname.setText(""); editpass.setText(""); return;
            } catch (Exception ex) { ex.printStackTrace();
            }       finally       {       try       {
                fileOutputStream.close();

    } catch (IOException e) {e.printStackTrace();
                }
            }
        }

        public void   next( View view)                  //NEXT
        {
            Toast.makeText(this,"NEXT", Toast.LENGTH_SHORT).show();Intent intent= new
            Intent(this, MainActivity2.class); startActivity(intent);

        }
    }
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout          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"
    tools:context="com.example.a7storingdata.MainActivity">
```

```
<TextView   android:text="@string/name"   android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentTop="true"  android:layout_alignParentLeft="true"
      android:layout_alignParentStart="true"     android:layout_marginLeft="51dp"
      android:layout_marginStart="51dp"          android:layout_marginTop="59dp"
      android:id="@+id/txtname"                       android:textStyle="bold|italic"
      android:textSize="18sp" />

<TextView android:text="@string/password" android:layout_width="wrap_content"
      android:layout_height="wrap_content" android:layout_below="@+id/txtname"
      android:layout_alignLeft="@+id/txtname"
      android:layout_alignStart="@+id/txtname" android:layout_marginTop="56dp"
      android:id="@+id/txtpass" android:textStyle="bold|italic" android:textSize="18sp"
      />

<EditText    android:id="@+id/editName"    android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentTop="true"     android:layout_marginStart="21dp"
      android:layout_marginLeft="21dp"          android:layout_marginTop="48dp"
      android:layout_toEndOf="@+id/txtpass"


      android:layout_toRightOf="@+id/txtpass"                              android:ems="8"
      android:inputType="textPersonName" />

<EditText android:id="@+id/editPass"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content" android:layout_below="@+id/editName"
      android:layout_alignStart="@+id/editName" android:layout_alignLeft="@+id/editName"
      android:layout_marginTop="35dp" android:ems="10" android:inputType="textPassword" />


<Button android:text="@string/save" android:layout_width="wrap_content"
      android:layout_height="wrap_content" android:layout_below="@+id/editPass"
      android:layout_alignLeft="@+id/txtpass" android:layout_alignStart="@+id/txtpass"
      android:layout_marginTop="86dp" android:id="@+id/button" android:onClick="save"/>
      // OnClick "save"
```

```
<Button android:text="@string/next"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"          android:layout_alignTop="@+id/button"
android:layout_alignRight="@+id/editName"          android:layout_alignEnd="@+id/editName"
android:layout_marginRight="25dp"                          android:layout_marginEnd="25dp"
android:id="@+id/button2" android:onClick="next"/> // OnClick "next" </RelativeLayout>
```

MainActivity2.java

```
package com.example.a7storingdata;
import androidx.appcompat.app.AppCompatActivity;import android.os.Bundle; import
    android.content.Intent;import android.util.Log; import android.view.View; import
    android.widget.TextView;import android.widget.Toast; import java.io.FileInputStream;
    public class MainActivity2 extends AppCompatActivity {TextView getname, getpass;
        @Override
        protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);


            setContentView(R.layout.activity_main2); getname =
            (TextView)findViewById(R.id.getname);getpass =
            (TextView)findViewById(R.id.getpass);

        }
        public void load(View view)
        { try {
                FileInputStream fileInputStream = openFileInput("Code.txt");int read = -1;
                StringBuffer buffer = new StringBuffer(); while((read
                =fileInputStream.read())!= -1){ buffer.append((char)read);
                }
                Log.d("Code", buffer.toString());
                String name = buffer.substring(0,buffer.indexOf(" "));String pass =
                buffer.substring(buffer.indexOf("    ")+1);getname.setText(name);
                getpass.setText(pass);
            } catch (Exception e) { e.printStackTrace();
            }
            Toast.makeText(this,"Loaded", Toast.LENGTH_SHORT).show();


        }
```

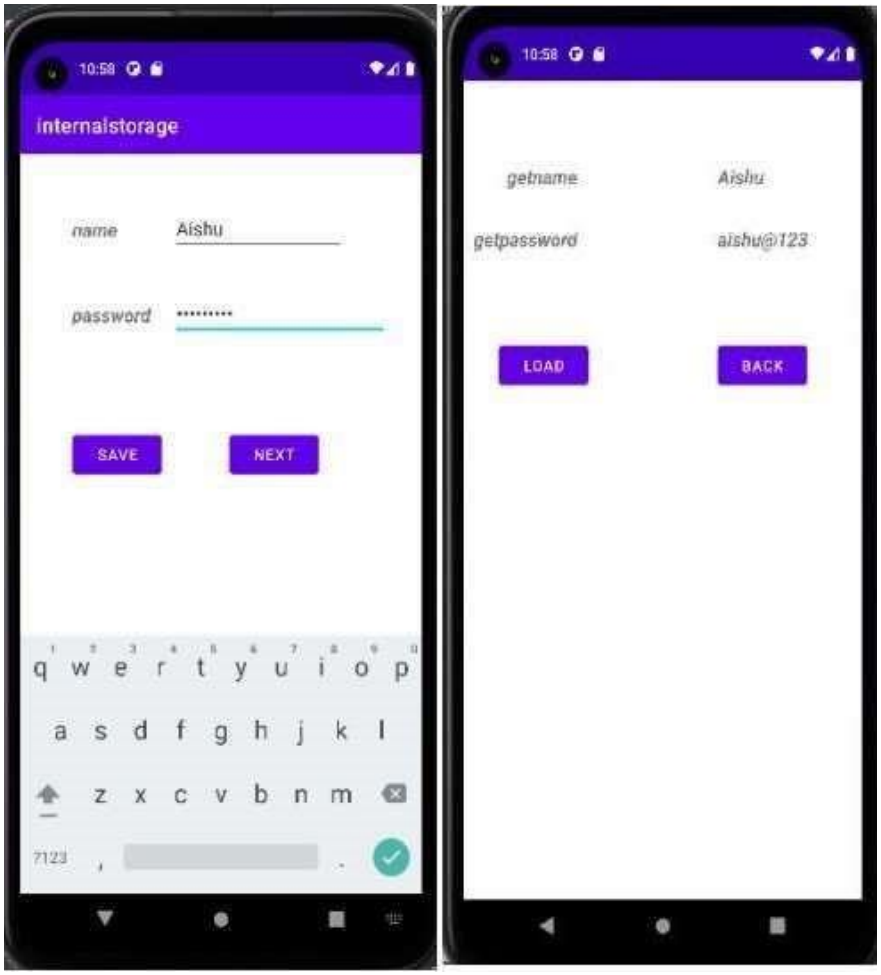
```
    public void back( View view)
    {
        Toast.makeText(this,"Back", Toast.LENGTH_SHORT).show();Intent intent= new Intent(this,
        MainActivity.class); startActivity(intent);
    }
}
```

Activity_main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/activity_main2" android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.a7storingdata.MainActivity2">

    <TextView android:text="@string/getname" android:layout_width="wrap_content"
        android:layout_height="wrap_content" android:layout_alignParentTop="true"
        android:layout_alignRight="@+id/button3"
        android:layout_alignEnd="@+id/button3" android:layout_marginRight="11dp"
        android:layout_marginEnd="11dp" android:layout_marginTop="76dp"
        android:id="@+id/textView3" android:textSize="18sp"
        android:textStyle="bold|italic" />

    <TextView android:text="@string/getpassword" android:layout_width="wrap_content"
        android:layout_height="wrap_content" android:layout_below="@+id/textView3"
        android:layout_alignRight="@+id/textView3"
        android:layout_alignEnd="@+id/textView3" android:layout_marginTop="33dp"
        android:id="@+id/textView4" android:textStyle="bold|italic" android:textSize="18sp"
        />

    <TextView android:layout_width="wrap_content"
        android:layout_height="wrap_content" android:layout_above="@+id/textView4"
        android:layout_alignLeft="@+id/button4"
        android:layout_alignStart="@+id/button4" android:id="@+id/getname"
        android:textStyle="bold|italic" android:textSize="18sp" />
```

```
    <TextView android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignBottom="@+id/textView4" android:layout_alignLeft="@+id/getname"
        android:layout_alignStart="@+id/getname" android:id="@+id/getpass"
        android:textStyle="bold|italic" android:textSize="18sp" />

    <Button  android:text="@string/load"  android:layout_width="wrap_content"
        android:layout_height="wrap_content"        android:id="@+id/button3"
        android:layout_marginLeft="35dp"    android:layout_marginStart="35dp"
        android:onClick="load"            android:layout_below="@+id/textView4"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_marginTop="80dp" />

    <Button android:text="@string/back" android:layout_width="wrap_content"
        android:layout_height="wrap_content" android:layout_marginRight="54dp"
        android:layout_marginEnd="54dp" android:id="@+id/button4" android:onClick="back"
        android:layout_alignBaseline="@+id/button3"
        android:layout_alignBottom="@+id/button3" android:layout_alignParentRight="true"
        android:layout_alignParentEnd="true" />

</RelativeLayout>
```

OUTPUT:


10:58
internalstorage
name
Aishu
password
SAVE
NEXT
10:58
getname
Aishu
getpassword
aishu@123
LOAD
BACK

PROGRAM 8:

Create an android application to demonstrate GridView

Step1:create Xml file and Java file.

Step2:Open activity_main.xml file and add GridView Layout.

Step3:Open MainActivity.java file and instantiate the gridview created in the xml file using findViewById() method. Then create setAdapter for the gridview.

IMAGEADAPTER

Step1:Create a new Imageadapter.java file. The class ImageAdapter will extend the BaseAdapter.

Step7:The BaseAdapter set Gridview for the images.

Step8:Using R.drawable will assign the imageView.

MainActivity.java

```
package com.example.prgm8;

import androidx.appcompat.app.AppCompatActivity;import android.os.Bundle;
import android.app.Activity; import android.view.Menu; import android.widget.GridView;

public class MainActivity extends Activity {@Override protected void onCreate(Bundle
    savedInstanceState)          {          super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);

        GridView gridview = (GridView) findViewById(R.id.gridview); gridview.setAdapter(new
        ImageAdapter(this));
    }
}
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<GridView                    xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/gridview"                    android:layout_width="fill_parent"
    android:layout_height="fill_parent"  android:columnWidth="120dp"  android:numColumns="3"
    android:verticalSpacing="10dp"                    android:horizontalSpacing="10dp"
    android:stretchMode="columnWidth" android:gravity="center"
/>
```

ImageAdapter.java

```
package com.example.prgm8;

import android.content.Context;import android.view.View; import android.view.ViewGroup;
import android.widget.BaseAdapter;import android.widget.GridView; import
android.widget.ImageView;

class ImageAdapter extends BaseAdapter {private Context mContext; public
ImageAdapter(Context c) {mContext = c;

        }

        public int getCount() { return picIds.length;
        }

        public Object getItem(int position) {return null;
        }
        public long getItemId(int position) {return 0;
        }

        // create a new ImageView for each item referenced by the Adapter

        public View getView(int position, View convertView, ViewGroup parent) { ImageView
                imageView;
if      (convertView        ==        null)       {       imageView       =       new
                ImageView(mContext);imageView.setLayoutParams(new
                GridView.LayoutParams(85,85));

                        imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);

                                                imageView.setPadding(8,8,8,8);
                }
                else
                {
                                                imageView = (ImageView) convertView;
                }


                imageView.setImageResource(picIds[position]); return imageView;
        }

    // Keep all Images in arraypublic Integer[] picIds = {R.drawable.sample2,
        R.drawable.sample3, R.drawable.sample4, R.drawable.sample5,
        R.drawable.sample6, R.drawable.sample7, R.drawable.sample0,
        R.drawable.sample1, R.drawable.sample2, R.drawable.sample3,
        R.drawable.sample4, R.drawable.sample5, R.drawable.sample6,
        R.drawable.sample7, R.drawable.sample0, R.drawable.sample1,
        R.drawable.sample2, R.drawable.sample3, R.drawable.sample4, R.drawable.sample5
```

R.drawable.*sample7*,R.drawable.*sample0*,R.drawable.*sample1*

```
        };
 }
```

OUTPUT :

PROGRAM 9:

Demonstrate ImageView and GridView

Procedure:

GridView

Step 1: Creating a New Project
Step 2: Add google repository in the build.gradle file of the application project. Step 3: Modify the activity_main.xml file
Step 4: Create an XML layout file for each item of GridView Step 5: Create a Modal Class for storing Data
Step 6: Create an Adapter Class
Step 7: Modify the MainActivity.java file

Image View

Step 1: Create a New Project
Step 2: Working with the activity_main.xml file Step 3: Working with the MainActivity file

MainActivity.java

```
package com.example.prgm9; import androidx.appcompat.app.AppCompatActivity;import android.app.Activity; import android.content.Intent;import android.os.Bundle; import android.view.View; import android.widget.AdapterView;import android.widget.GridView;

public class MainActivity extends Activity {@Override protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState); setContentView(R.layout.activity_main);

GridView gridview = (GridView) findViewById(R.id.gridview); gridview.setAdapter(new ImageAdapter(this));

gridview.setOnItemClickListener(new AdapterView.OnItemClickListener() { public void onItemClick(AdapterView<?> parent, View v, intposition, long id){

// Send intent to SingleViewActivity

Intent i = new Intent(getApplicationContext(),SingleViewActivity.class); // Pass image index

i.putExtra("id", position);startActivity(i);
}
});
}
}
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<GridView                    xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/gridview"                    android:layout_width="fill_parent"
    android:layout_height="fill_parent"  android:columnWidth="120dp"  android:numColumns="3"
    android:verticalSpacing="10dp"                    android:horizontalSpacing="10dp"
    android:stretchMode="columnWidth"


    android:gravity="center"
    />
```

ImageAdapter.java

```
package com.example.prgm9;

import android.content.Context;import android.view.View; import android.view.ViewGroup;
import android.widget.BaseAdapter;import android.widget.GridView; import
android.widget.ImageView;
class ImageAdapter extends BaseAdapter {private Context mContext;

    // Constructor

    public ImageAdapter(Context c) {mContext = c;
    }

    public int getCount() { return picIds.length;
    }

    public Object getItem(int position) {return null;
    }

    public long getItemId(int position) {

        return 0;
    }

    // create a new ImageView for each item referenced by the Adapter
```

```
        public View getView(int position, View convertView, ViewGroup parent) { ImageView
            imageView;
if      (convertView    ==    null)    {    imageView    =    new
            ImageView(mContext);imageView.setLayoutParams(new
            GridView.LayoutParams(85, 85));

                imageView.setScaleType(ImageView.ScaleType.CENTER_CROP);
                imageView.setPadding(8, 8, 8,
                8);
            } else {
                imageView = (ImageView) convertView;
            }

            imageView.setImageResource(picIds[position]); return imageView;

        }

    // Keep all Images in arraypublic Integer[] picIds = {R.drawable.sample2,


            R.drawable.sample3, R.drawable.sample4,
            R.drawable.sample5, R.drawable.sample6,
            R.drawable.sample7, R.drawable.sample0,
            R.drawable.sample1, R.drawable.sample2,
            R.drawable.sample3, R.drawable.sample4,
            R.drawable.sample5, R.drawable.sample6,
            R.drawable.sample7, R.drawable.sample0,
            R.drawable.sample1, R.drawable.sample2,
            R.drawable.sample3, R.drawable.sample4,
            R.drawable.sample5, R.drawable.sample6,
            R.drawable.sample7,
            R.drawable.sample0, R.drawable.sample1
        }; }
```

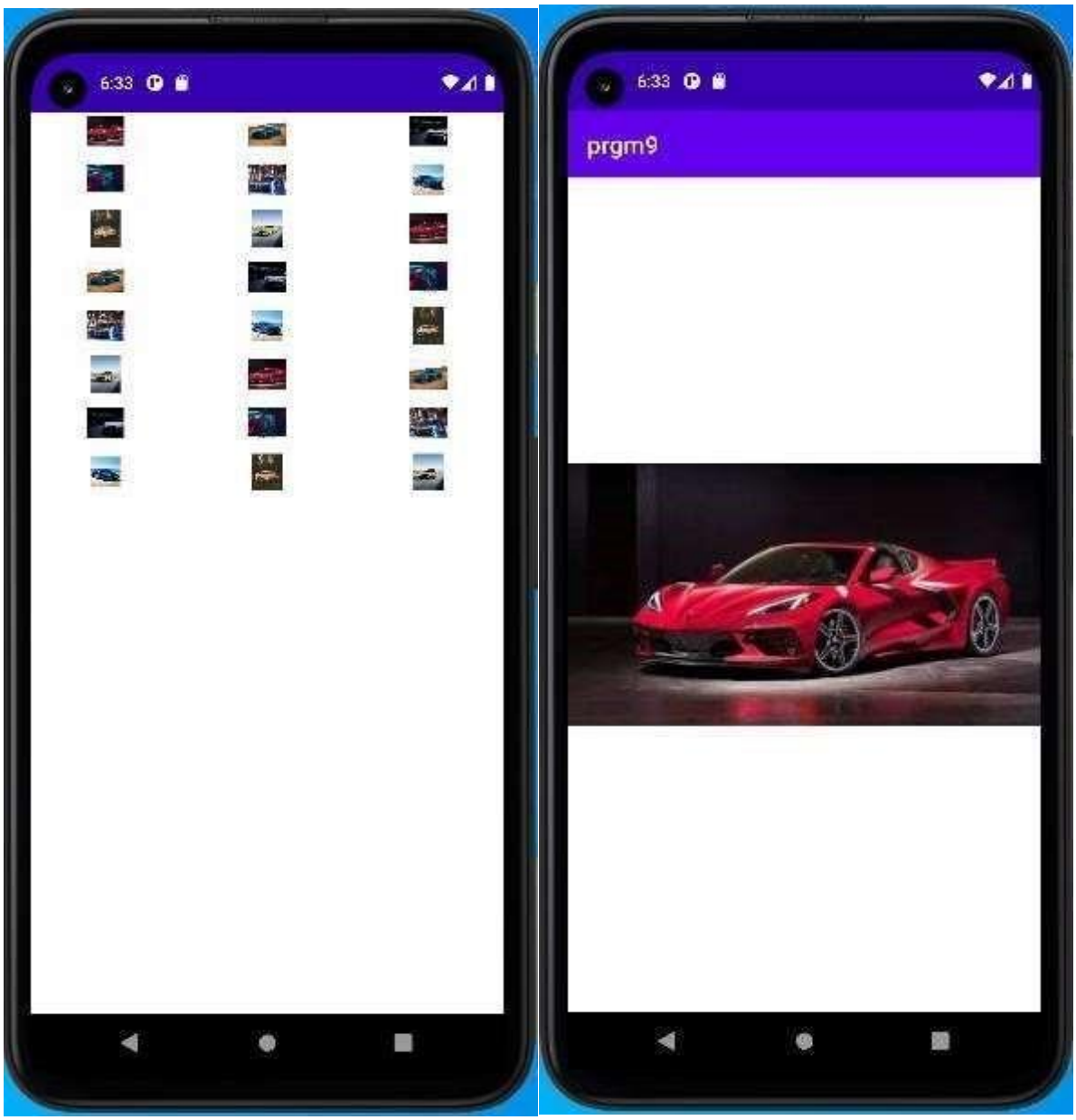
SingleViewActivity.java

```
package com.example.prgm9;
    import androidx.appcompat.app.AppCompatActivity;import android.app.Activity;
    import android.content.Intent;import android.os.Bundle; import
    android.widget.ImageView;
    public class SingleViewActivity extends AppCompatActivity {@Override
        protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_single_view);
            // Get intent data

            Intent i = getIntent();

    // Selected image id

            int position = i.getExtras().getInt("id"); ImageAdapter imageAdapter = new
            ImageAdapter(this);

            ImageView imageView = (ImageView) findViewById(R.id.SingleView);



            imageView.setImageResource(imageAdapter.picIds[position]);
        }
    }
```

Activity_single_view.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" >

    <ImageView android:id="@+id/SingleView" android:layout_width="fill_parent"
        android:layout_height="fill_parent"/>

</LinearLayout>
```

OUTPUT:




6:34
prgm9

PROGRAM 10:

Demonstration of Toggle Button

Procedure:

Step 1: START

Step 2: Create Xml file and Java file.

Step 2: Open activity_main.xml file and one Image View to display image and one button to change images in a frame layout.

Step 3: Download three images and name it piq1.jpg, buttonback.jpg, and pic2.jpg etc and paste it in /src/drawable/ folder.

Step 4: Open MainActivity.java file and import the libraries that are needed.

Step 5: Instantiate the button and Image View created in the xml file using findViewById() method. This method binds the created object to the UI components with the help of assigned ID.

Step 6: By clicking the button with buttonback.jpg, it changes the images between piq1.jpg and pic2.jpg.

Step 7: STOP

MAINACTIVITY.JAVA

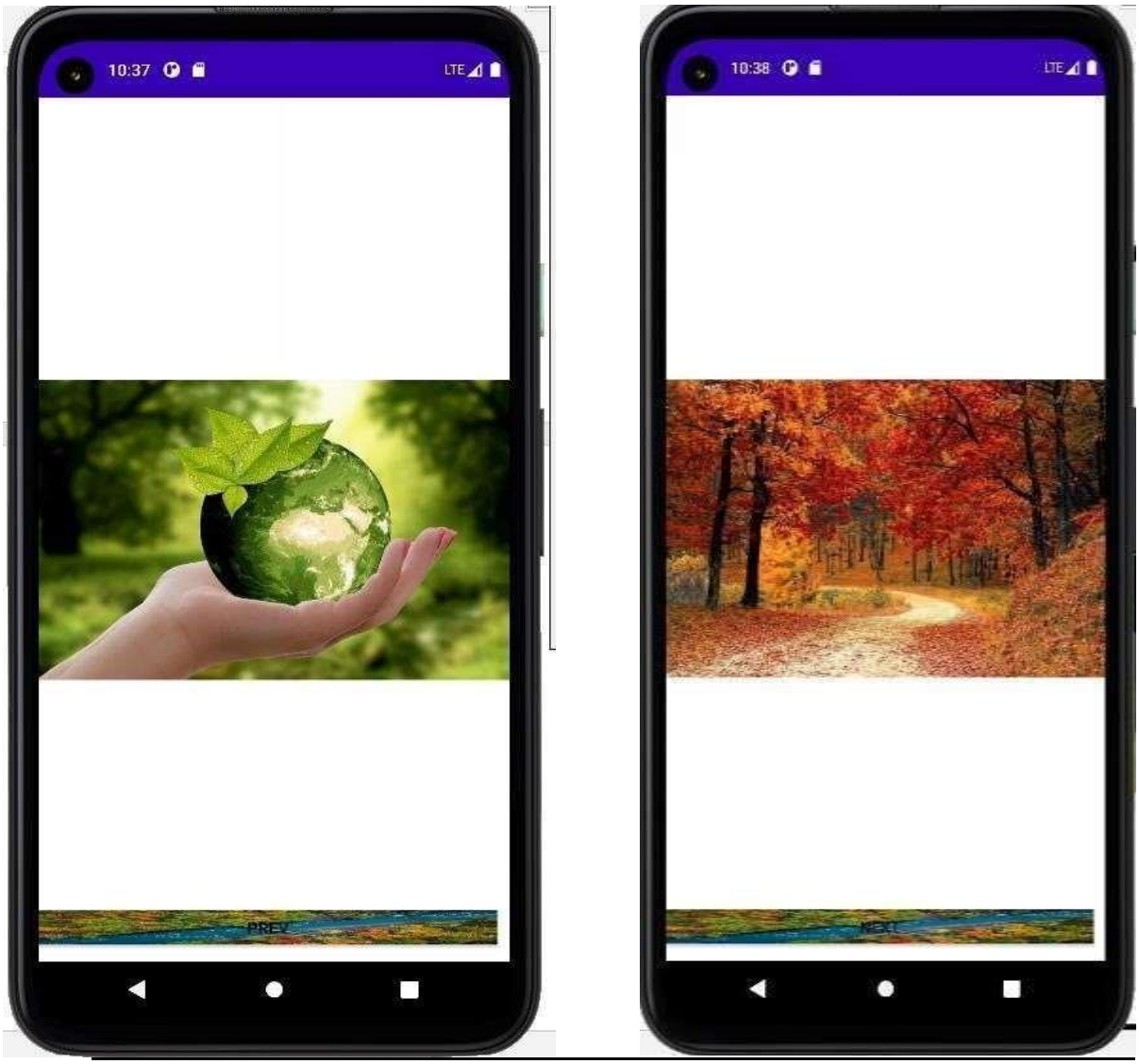
```
package com.example.togglebutton;

import android.app.Activity; import android.view.View; import android.widget.Button;
import android.widget.ImageView; import android.os.Bundle; public class MainActivity
extends Activity { String s = "Next";
  @Override
  protected void onCreate(Bundle
                    savedInstanceState) {
// TODO Auto-generated method stub super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main); Button next= (Button)

      findViewById(R.id.next); next.setText(s); next.setOnClickListener(new View.OnClickListener()
      {
                @Override
                  public void onClick(View v) { if (s.equals("Next")) {
// TODO Auto-generated method stub


                        ImageView img = (ImageView) findViewById(R.id.imageview);
                        img.setImageResource(R.drawable.pic1); Button next= (Button)
                        findViewById(R.id.next); s = "Prev";
                        next.setText(s); }
                      else {
                        ImageView img = (ImageView) findViewById(R.id.imageview);

                        img.setImageResource(R.drawable.pic2); Button next= (Button)
                            findViewById(R.id.next); s = "Next";
                        next.setText(s);
```

```
                                    };

}
});
    }
 }
```

ACTIVITY_MAIN.XML

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   android:layout_width="fill_parent" android:layout_height="fill_parent">
   <ImageView android:id="@+id/imageview" android:layout_width="fill_parent"
      android:layout_height="fill_parent"          android:scaleType="fitCenter"
      android:src="@drawable/pic1" />
   <Button android:id="@+id/next" android:layout_width="wrap_content"
      android:layout_height="30dp"
      android:layout_marginBottom="15dp"                    android:layout_marginRight="10dp"
      android:layout_gravity="bottom|right" android:paddingTop="2dp" android:paddingBottom="2dp"
      android:background="@drawable/buttonback" android:textColor="#000000" android:text="Next"
      />

</FrameLayout>
```

OUTPUT



PROGRAM 11:

Demonstration of options menu

Procedure:

Step 1: Start
Step 2: Create xml and java file Step 3:
Create optionsmenu.xml file
Step 4: Open optionsmenu.xml file, and add one or more items to your options menu depending on the needs.
Step 5: Open main_activity.java file and import necessary libraries
Step 6: Inflate the menu resources using onCreateOptionsMenu() method.
Step 7: Detect user interaction by add the onOptionsItemSelected method outline after the onCreateOptionsMenu() method.
Step 8: Respond to Menu Item Selection by using switch statement to your method.
Step 9: Stop

MAINACTIVITY.JAVA

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle; import
android.view.Menu; import android.view.MenuItem;
import android.widget.TextView; import
android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity; public
class MainActivity extends AppCompatActivity {
// TextView tvMsg; @Override
protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
// tvMsg= (TextView) findViewById(R.id.textView);
}
// Overriding onCreateoptionMenu() to make Option menu
@Override public boolean
onCreateOptionsMenu(Menu menu) { //Inflating
menu by overriding inflate() method of MenuInflater
class.
//Inflating here means parsing layout XML to views.
getMenuInflater().inflate(R.menu.menucontext, menu); return
true;
}
//Overriding onOptionsItemSelected to perform event on menu
```

```
items @Override
public boolean onOptionsItemSelected(MenuItem menuItem) {

Toast.makeText(this, "The MENU ITEM Selected : " +
menuItem.getTitle(), Toast.LENGTH_LONG).show(); switch
(menuItem.getItemId()) {
case R.id.search: //Your
code here return true;
case R.id.find: //Your
code here return true;
case R.id.edit: //Your
code here return true;
case R.id.relocate:
//Your code here return
true; case R.id.exit:
//Your code here
return true; default:
return super.onOptionsItemSelected(menuItem);
}
}
}}
```

ACTIVITY_MAIN.XML

```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout

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">

</androidx.constraintlayout.widget.ConstraintLayout>
```

MENUCONTEXT.XML

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item
android:id="@+id/search"
android:title="Search" />
<item
android:id="@+id/find"
android:title="Find" />
<item
android:id="@+id/edit"
android:title="Edit" />
<item android:id="@+id/relocate" android:title="Relocate"
/>
<item android:id="@+id/exit"
android:title="Exit" /> </menu>
```

PROGRAM 12:

Use of Spinner widget in android application demonstration.

Procedure:

Step 1 : Start
Step 2 : Create xml and java file
Step 3 : Open activity_main.xml file and add a spinner object inside relative layout and one textview
Step 4 : Create strings.xml file
Step 5 : Open strings.xml file and add string under resource element with few items using string-array
Step 6 : Open main_activity.java file and import necessary libraries
Step 7 : Getting the instance of spinner using findViewById() and applying OnItemSelectedListener on it
Step 8 : We use array adapter to fill the data in spinner, also we use toast to display when the item in spinner is selected.
Step 9 : Performing action OnItemSelected and OnNothingSelected Step10 :
Stop

MainActivity.java

```
package com.example.a12spinnerwidget;import android.os.Bundle; import
android.view.View;
import android.widget.AdapterView;import android.widget.Spinner; import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;import android.widget.ArrayAdapter; public
class MainActivity extends AppCompatActivity {
    // these are the global variables

    Spinner classSpinner, divSpinner;
    // string variable to store selected values

    String selectedClass, selectedDiv;

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

        classSpinner = (Spinner) findViewById(R.id.classSpinner);divSpinner = (Spinner)
        findViewById(R.id.divSpinner);

        // Class Spinner implementing onItemSelectedListener


        classSpinner.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener()
{
            @Override
            public void onItemSelected(AdapterView<?> parent, View view,int position,
```

```
        long id) {

                String selectedClass = parent.getItemAtPosition(position).toString(); switch
                (selectedClass) {case "Class 1":
                        // assigning div item list defined in XMLto the div

        Spinner
divSpinner.setAdapter(new
                                ArrayAdapter<String>(MainActivity.this,

        android.R.layout.simple_spinner_dropdown_item,

        getResources().getStringArray(R.array.items_div_class_1)));
                                break;
case "Class 2": divSpinner.setAdapter(new
                                ArrayAdapter<String>(MainActivity.this,

        android.R.layout.simple_spinner_dropdown_item,

        getResources().getStringArray(R.array.items_div_class_2)));
                                break;
case "Class 3": divSpinner.setAdapter(new
                                ArrayAdapter<String>(MainActivity.this,
        android.R.layout.simple_spinner_dropdown_item,
        getResources().getStringArray(R.array.items_div_class_3)));
                                Toast.makeText(MainActivity.this, "\n Class: \t " +selectedClass,
        Toast.LENGTH_LONG).show();
                                break;
case "Class 4": divSpinner.setAdapter(new
                                ArrayAdapter<String>(MainActivity.this,
        android.R.layout.simple_spinner_dropdown_item,
        getResources().getStringArray(R.array.items_div_class_4)));
                                Toast.makeText(MainActivity.this, "\n Class: \t " +selectedClass,
        Toast.LENGTH_LONG).show();

                                 break;
                        }
                        //set divSpinner Visibility to Visible

                        divSpinner.setVisibility(View.VISIBLE);
                }
```

```
            @Override
            public void onNothingSelected(AdapterView<?> parent) { //
                can leave this empty


            } });
        // Div Spinner implementing onItemSelectedListener

        divSpinner.setOnItemSelectedListener(new      AdapterView.OnItemSelectedListener()      {
            @Override public void onItemSelected(AdapterView<?> parent, Viewview, int position,
            long id) {
                selectedDiv =
                        parent.getItemAtPosition(position).toString();
                // create a Toast to show the values on screen

                Toast.makeText(MainActivity.this,


                        "\n Div: \t" + selectedDiv,Toast.LENGTH_LONG).show();

                        }

            @Override
            public void onNothingSelected(AdapterView<?> parent) { //
                can leave this empty

            }

        });


    }
}
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout                 xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent" android:layout_height="match_parent"
    tools:context="com.example.a12spinnerwidget.MainActivity">

    <TextView android:id="@+id/tvDemo"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" android:layout_alignParentStart="true"
        android:layout_alignParentTop="true" android:gravity="center" android:text="SPINNER
        DEMO" android:layout_alignParentLeft="true" />
```

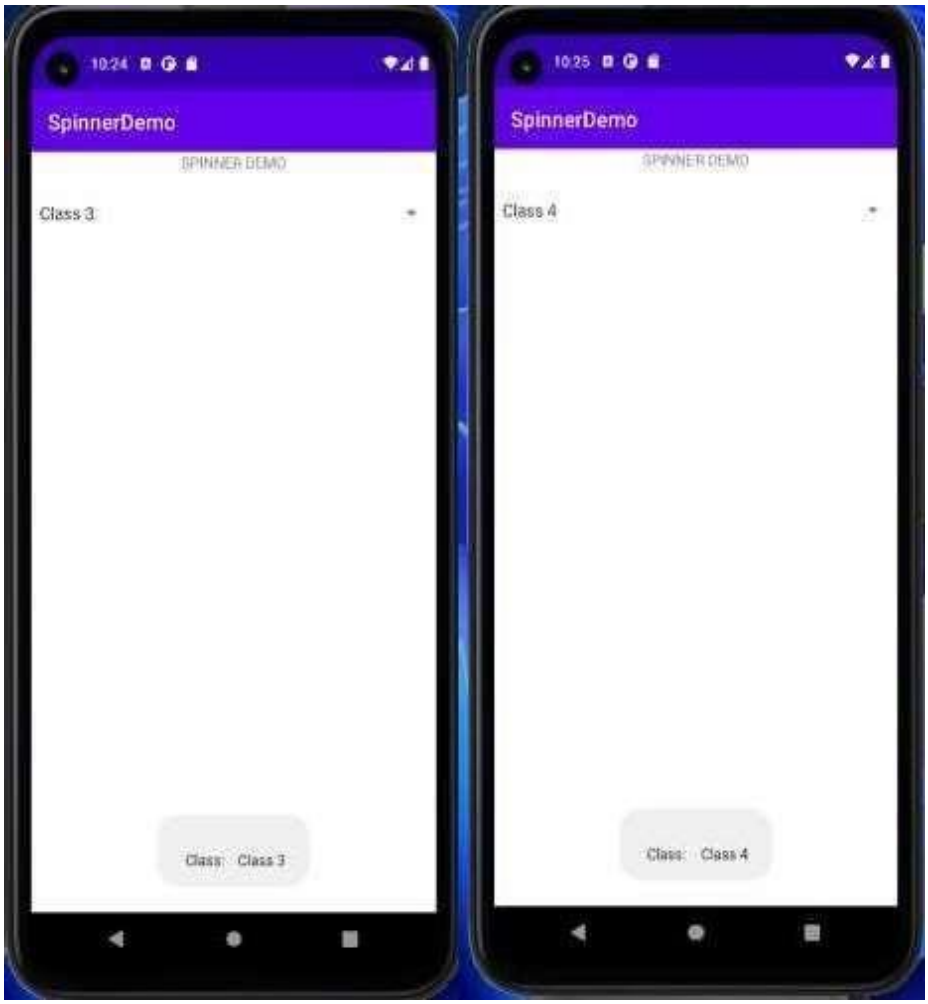
```
        <Spinner    android:id="@+id/classSpinner"    android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_below="@+id/tvDemo"       android:layout_marginTop="25dp"
                android:entries="@array/items_class"/>

        <Spinner android:id="@+id/divSpinner"
                android:visibility="gone"
android:layout_width="match_parent"                                  android:layout_height="wrap_content"
                android:layout_below="@id/classSpinner"
                android:layout_toLeftOf="@id/classSpinner" android:layout_marginTop="10dp"
                />
    </RelativeLayout>
```

strings.xml

```
    <resources>
    <string name="app_name">SpinnerDemo</string>

    <string-array name="items_class">
        <item>Class 1</item>
        <item>Class 2</item>
        <item>Class 3</item>
        <item>Class 4</item>
    </string-array>

    <string-array name="items_div_class_1">
        <item>Div 1-A</item>
        <item>Div 1-B</item>


        <item>Div 1-C</item>
        <item>Div 1-D</item>
    </string-array>

    <string-array name="items_div_class_2">
        <item>Div 2-A</item>
        <item>Div 2-B</item>

        <item>Div 2-C</item>
        <item>Div 2-D</item>
    </string-array>

    <string-array name="items_div_class_3">
        <item>Div 3-A</item>
        <item>Div 3-B</item>
        <item>Div 3-C</item>
```

```
        <item>Div 3-D</item>
    </string-array>

    <string-array name="items_div_class_4">
        <item>Div 4-A</item>
        <item>Div 4-B</item>
        <item>Div 4-C</item>
        <item>Div 4-D</item>
    </string-array>

    </resources>
```

OUTPUT:



PROGRAM 13:

Database application using SQLite.

Procedure:

Step 1: Start
Step 2: Create xml and java files
Step 3: Open activity_main.xml file and add four textview, edittext and add four buttons to perform add, view, delete and update
Step 4: Open main_activity.java file and import the libraries that are needed Step 5: Create mydb object for the databasehelper class
Step 6: Instantiate the buttons and edittext created in the xml file using findViewById() method. This method binds the created object to the UI components with the help of assigned ID.
Step 7: Define methods deletedata(), adddata(), updatedata() ,viewall(), which returns delete particular data, insert data, update data, and view all data operations respectively
Step 8: OnCreateOptionsMenu() method specify the options menu for the activity. It inflates the menu resource defined in xml into menu provided.
Step 9: By using OnOptionsItemSelected() method we can handle action bar items that clicks.
Step 10: Create databasehelper.java file to handle database operations that are defined using sqliteopenhelper
Step 11: Mention all database informations such as database, table, columns etc.
Step 12: Call methods inorder to handle the database opertions such as creation, upgrading, reading, writing, deleting Step 13: Stop

ACTIVITY_MAIN.XML

```
<?xml version="1.0" encoding="utf-8"?>

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/

android" xmlns:tools="http://schemas.android.com/tools"

android:layout_width="match_parent" android:layout_height="match_parent"

tools:context=".MainActivity">

<TextView android:layout_width="wrap_content"
android:layout_height="wrap_content"
```

```
android:textAppearance="?android:attr/textAppearanceLarge"
android:text="Name"                                    android:id="@+id/textView"
android:layout_alignParentTop="true"          android:layout_alignParentLeft="true"
android:layout_alignParentStart="true"                 />                  <TextView
android:layout_width="wrap_content"        android:layout_height="wrap_content"
android:textAppearance="?android:attr/textAppearanceLarge"
android:text="Surname"                                 android:id="@+id/textView2"
android:layout_below="@+id/editText_name"
android:layout_alignParentLeft="true"   android:layout_alignParentStart="true"   />
<TextView                                      android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textAppearance="?android:attr/textAppearanceLarge"

android:text="Marks" android:id="@+id/textView3"
android:layout_below="@+id/editText_surname"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true" />
<EditText android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/editText_name"
android:layout_alignTop="@+id/textView"
```

```
android:layout_toRightOf="@+id/textView" android:layout_toEndOf="@+id/textView"
/>
<EditText  android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/editText_surname"
android:layout_alignTop="@+id/textView2"
android:layout_toRightOf="@+id/textView2"
android:layout_toEndOf="@+id/textView2"      />
<EditText  android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/editText_Marks"
android:layout_below="@+id/editText_surname"
android:layout_toRightOf="@+id/textView3"
android:layout_toEndOf="@+id/textView3" />
<Button android:layout_width="wrap_content"
android:layout_height="wrap_content"

android:text="Add Data" android:id="@+id/button_add"
android:layout_below="@+id/editText_Marks"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true"
android:layout_marginTop="76dp" />
<Button android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="View All"
```

```
android:id="@+id/button_viewAll" android:layout_above="@+id/button_update"
android:layout_centerHorizontal="true" /> <Button
android:layout_width="wrap_content" android:layout_height="wrap_content"
android:text="Update" android:id="@+id/button_update"
android:layout_below="@+id/button_add" android:layout_alignParentLeft="true"
android:layout_alignParentStart="true" /> <Button
android:layout_width="wrap_content" android:layout_height="wrap_content"
android:text="Delete" android:id="@+id/button_delete"
android:layout_centerVertical="true"
android:layout_below="@+id/button_viewAll"
android:layout_alignLeft="@+id/button_viewAll"

android:layout_alignStart="@+id/button_viewAll" />
<TextView android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:textAppearance="?android:attr/textAppearanceLarge"
android:text="id" android:id="@+id/textView_id"
android:layout_below="@+id/editText_Marks"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true" />
```

```
<EditText android:layout_width="match_parent"
android:layout_height="wrap_content"
android:id="@+id/editText_id"
android:layout_alignTop="@+id/textView_id"
android:layout_toRightOf="@+id/textView3"
android:layout_toEndOf="@+id/textView3" />
</RelativeLayout>
```

MAINACTIVITY.JAVA

```
package com.example.dbtest;

import androidx.appcompat.app.AlertDialog; import
androidx.appcompat.app.AppCompatActivity; import
android.database.Cursor; import android.os.Bundle;
import android.view.Menu; import
android.view.MenuItem; import android.view.View;
import android.widget.Button; import
android.widget.EditText; import
android.widget.Toast;

public class MainActivity extends AppCompatActivity {
DatabaseHelper myDb;
EditText editName,editSurname,editMarks ,editTextId;
Button btnAddData;
Button btnviewAll; Button
btnDelete; Button
btnviewUpdate;
```

```
@Override protected void onCreate(Bundle
savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main); myDb = new
DatabaseHelper(this); editName =
(EditText)findViewById(R.id.editText_name);
editSurname = (EditText)findViewById(R.id.editText_surname);

editMarks = (EditText)findViewById(R.id.editText_Marks);
editTextId = (EditText)findViewById(R.id.editText_id); btnAddData
= (Button)findViewById(R.id.button_add); btnviewAll =
(Button)findViewById(R.id.button_viewAll); btnviewUpdate=
(Button)findViewById(R.id.button_update); btnDelete=
(Button)findViewById(R.id.button_delete); AddData();
viewAll();
UpdateData();
DeleteData();
}
public void DeleteData() {
btnDelete.setOnClickListener( new
View.OnClickListener() { @Override public void
onClick(View v) { Integer deletedRows =
myDb.deleteData(editTextId.getText().toString());
if(deletedRows > 0)
Toast.makeText(MainActivity.this,"Data
Deleted",Toast.LENGTH_LONG).show();
```

```
else Toast.makeText(MainActivity.this,"Data not
Deleted",Toast.LENGTH_LONG).show();
}
}
);
}
public void UpdateData() { btnviewUpdate.setOnClickListener(

new View.OnClickListener() {
@Override
public void onClick(View v) { boolean isUpdate =
myDb.updateData(editTextId.getText().toString(),
editName.getText().toString(),

editSurname.getText().toString(),editMarks.getText().toString());
if(isUpdate == true)
Toast.makeText(MainActivity.this,"Data
Update",Toast.LENGTH_LONG).show();   else
Toast.makeText(MainActivity.this,"Data   not
Updated",Toast.LENGTH_LONG).show();
}
}
);
}
public void AddData() { btnAddData.setOnClickListener(
```

```
new View.OnClickListener() {
@Override
public void onClick(View v) { boolean isInserted

=

myDb.insertData(editName.getText().toString(),

editSurname.getText().toString(),

editMarks.getText().toString() );


if(isInserted == true)
Toast.makeText(MainActivity.this,"Data
Inserted",Toast.LENGTH_LONG).show(); else


Toast.makeText(MainActivity.this,"Data not

Inserted",Toast.LENGTH_LONG).show();

}

}

);

}


public void viewAll() {

btnviewAll.setOnClickListener( new

View.OnClickListener() { @Override

public void onClick(View v) { Cursor

res = myDb.getAllData();

if(res.getCount() == 0) {

// show message showMessage("Error","Nothing found");
```

```
return;
}

StringBuffer buffer = new StringBuffer();
while (res.moveToNext()) { buffer.append("Id
:"+ res.getString(0)+"\n");
buffer.append("Name
:"+ res.getString(1)+"\n"); buffer.append("Surname
:"+ res.getString(2)+"\n"); buffer.append("Marks
:"+ res.getString(3)+"\n\n");
}

// Show all data
showMessage("Data",buffer.toString());
}
}
);
}

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

```
@Override public boolean
onCreateOptionsMenu(Menu menu) {
// Inflate the menu; this adds items to the action bar if it is
present.
//getMenuInflater().inflate(R.menu.menu_main, menu);
return true;
}

@Override public boolean
onOptionsItemSelected(MenuItem item) {
// Handle action bar item clicks here. The action bar will

// automatically handle clicks on the Home/Up button, so long
// as you specify a parent activity in
AndroidManifest.xml.
int id = item.getItemId();

//noinspection SimplifiableIfStatement
/* if (id == R.id.action_settings) { return
true;
}*/

return super.onOptionsItemSelected(item);
}
}
```

DATABASEHELPER.JAVA

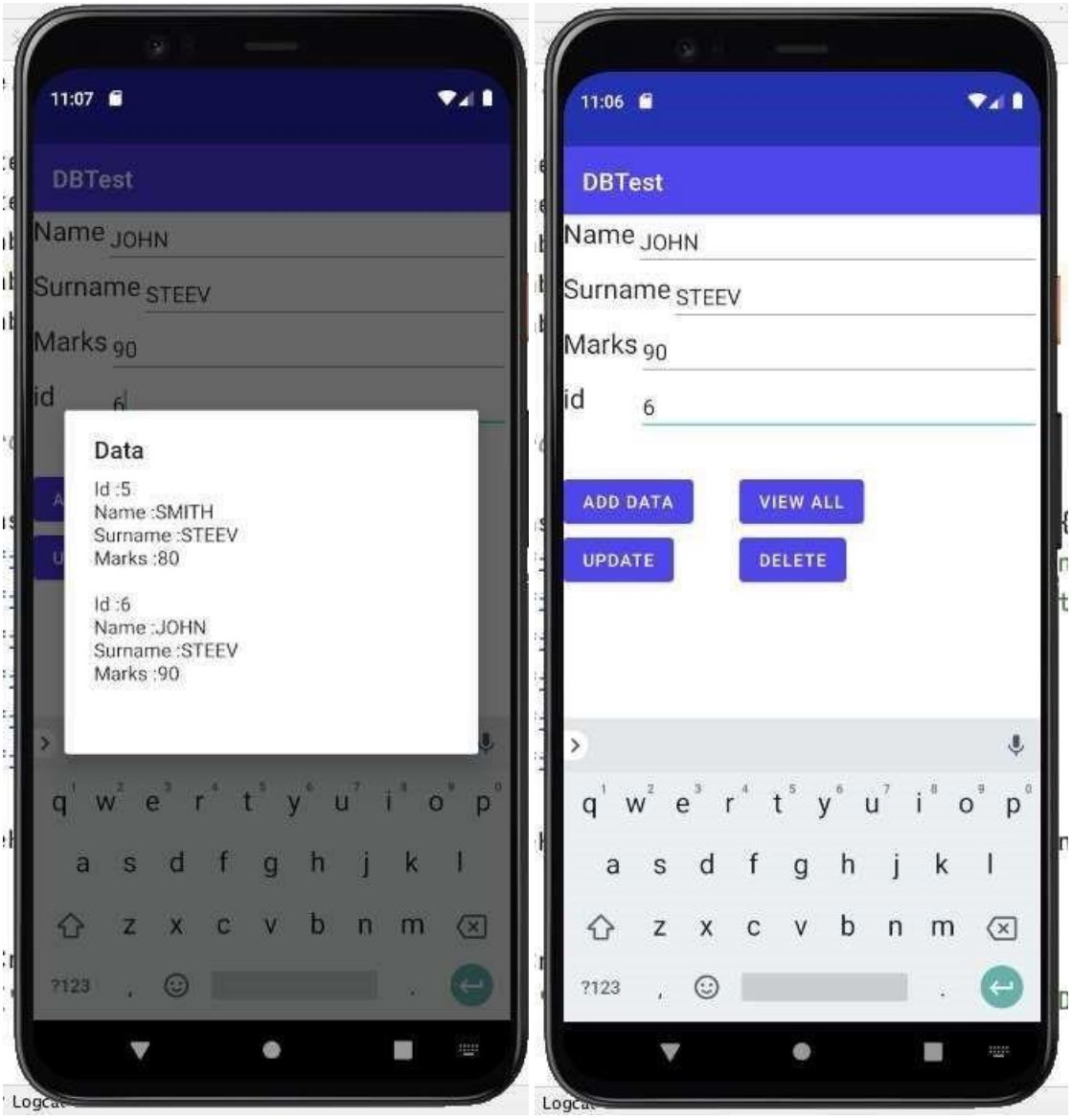
```
package com.example.dbtest;

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

public class DatabaseHelper extends SQLiteOpenHelper { public
static final String DATABASE_NAME = "Student.db"; public
static final String TABLE_NAME = "student_table"; public static
final String COL_1 = "ID"; public static final String COL_2 =
"NAME"; public static final String COL_3 = "SURNAME"; public
static final String COL_4 = "MARKS";

public DatabaseHelper(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,SURNAME TEXT,MARKS INTEGER)");
}

@Override public void onUpgrade(SQLiteDatabase db, int
oldVersion, int newVersion) {
```


FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY

```
db.execSQL("DROP TABLE IF EXISTS "+TABLE_NAME);


onCreate(db);
}


public boolean insertData(String name,String surname,String marks) { SQLiteDatabase
db = this.getWritableDatabase();
ContentValues contentValues = new ContentValues();
contentValues.put(COL_2,name);
contentValues.put(COL_3,surname);
contentValues.put(COL_4,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 updateData(String id,String name,String surname,String marks) {
SQLiteDatabase db = this.getWritableDatabase();
ContentValues contentValues = new ContentValues();
contentValues.put(COL_1,id);
contentValues.put(COL_2,name);
```

```
contentValues.put(COL_3,surname);
contentValues.put(COL_4,marks); db.update(TABLE_NAME,
contentValues, "ID = ?",new String[]
{ id });

return true;
}

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

OUTPUT:


11:07
DBTest
Name JOHN
Surname STEEV
Marks 90
id 6
Data
Id :5
Name :SMITH
Surname :STEEV
Marks :80
Id :6
Name :JOHN
Surname :STEEV
Marks :90
11:06
DBTest
Name JOHN
Surname STEEV
Marks 90
id 6
ADD DATA
VIEW ALL
UPDATE
DELETE

FEDERAL INSTITUTE OF SCIENCE AND TECHNOLOGY