SRM Institute of Science and Technology
Ramapuram Chennai
Faculty of Science & Humanities
(A Place for Transformation)
PG Department of Computer Applications

PRACTICAL RECORD

NAME :

REGISTER NUMBER :

COURSE : MCA

SEMESTER / YEAR : II / I

SECTION : A & B

SUBJECT CODE : PCA25D05J

SUBJECT NAME : Mobile Application Developement

APRIL 2026

SRM Institute of Science and Technology
Ramapuram Chennai
Faculty of Science & Humanities
(A Place for Transformation)
PG Department of Computer Application

REGISTER NUMBER:

BONAFIDE CERTIFICATE

This is to certify that the bonafide work done by ___________________________________ in the subject **Mobile Application Developement [PCA25D05J]** at, SRM Institute of Science and Technology, Ramapuram Chennai in month **2026**.

STAFF IN-CHARGE **HEAD OF THE DEPARTMENT**

Submitted for the University Practical Examination held at SRM Institute of Science and Technology, Ramapuram Chennai on ___________________________

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ExNo:1 **RegNo:**
Date: **Name:**

LOGIN PAGE CREATION WITH TOAST MESSAGE USING RELATIVE LAYOUT

AIM:

Tocreate alogin pagewithtoast messageusing relative layout.

ALGORITHM:

1. CreateaNewAndroidProject:
   - ClickNewinthetoolbar.
   - In thewindowthat appears,open the Androidfolder,select AndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethe desired package name.
   - Choose a launcher icon for your application and then select Blank Activity and then click Next
   - Providethedesired Activitynameforyourprojectand thenclickFinish.
2. CreateaNewAVD(AndroidVirtualDevice):
   - ClickAndroidVirtual DeviceManagerfromthe toolbar.
   - Inthe AndroidVirtual DeviceManagerpanel, clickNew.
   - Fill in the details for the AVD. Give it a name, a platform target, an SD card size, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.

PROGRAM:

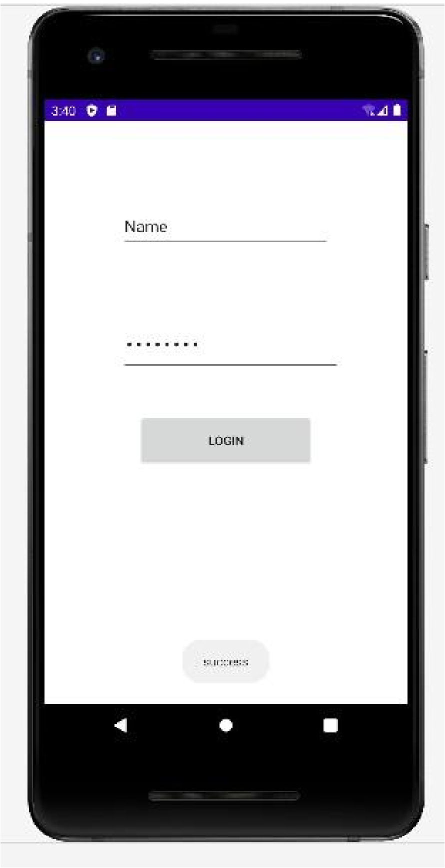
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">

   <EditText
      android:id="@+id/editTextTextPersonName"
      android:layout_width="236dp"
      android:layout_height="50dp"
      android:ems="10"
      android:inputType="textPersonName"
      android:text="Name"
      app:layout_constraintBottom_toBottomOf="parent"
```

```
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.155" />

    <EditText
        android:id="@+id/editTextTextPassword"
        android:layout_width="247dp"
        android:layout_height="63dp"
        android:layout_marginTop="76dp"
        android:ems="10"
        android:inputType="textPassword"
        android:text="Password"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.53"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
        app:layout_constraintVertical_bias="0.002" />

    <Button
        android:id="@+id/button"
        android:layout_width="199dp"
        android:layout_height="60dp"
        android:layout_marginBottom="268dp"
        android:text="login"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPassword"
        app:layout_constraintVertical_bias="1.0" />

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

MainActivity.java

```
package com.example.myapplication;

import android.os.Bundle;
import android.app.Activity;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity {

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

        // Binding UI components from XML to Java
        final EditText e1 = (EditText) findViewById(R.id.editTextTextPersonName);
        final EditText e2 = (EditText) findViewById(R.id.editTextTextPassword);
        Button b1 = (Button) findViewById(R.id.button);

        // Handling Login Button Click
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                // Displaying success message
                Toast.makeText(getBaseContext(), "Success", Toast.LENGTH_LONG).show();
            }
        });
    }
}
```

OUTPUT:



RESULT:

Thus,theprogramhasbeenverifiedandcompletedsuccessfully.

ExNo:2 **RegNo:**
Date: **Name:**

STUDENT INFORMATION SYSTEM WITH TOAST MESSAGE

AIM:

TocreatestudentinformationsystemwithToastMessage.

ALGORITHM:

1. CreateaNewAndroid Project:
   - ClickNewinthe toolbar.
   - In thewindowthat appears,open theAndroidfolder,select AndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethe desired package name.
   - Choose a launcher icon for your application and then select Blank Activity and then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD (AndroidVirtualDevice):
   - ClickAndroidVirtualDeviceManager fromthe toolbar.
   - Inthe AndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcardsize, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.
5. Whentheapplication studentsinformationwillbegivenas input.
6. Itdisplaysall thestudentsinformation whichis given.
7. ClosetheAndroidproject.

PROGRAM:

activity_main.xml

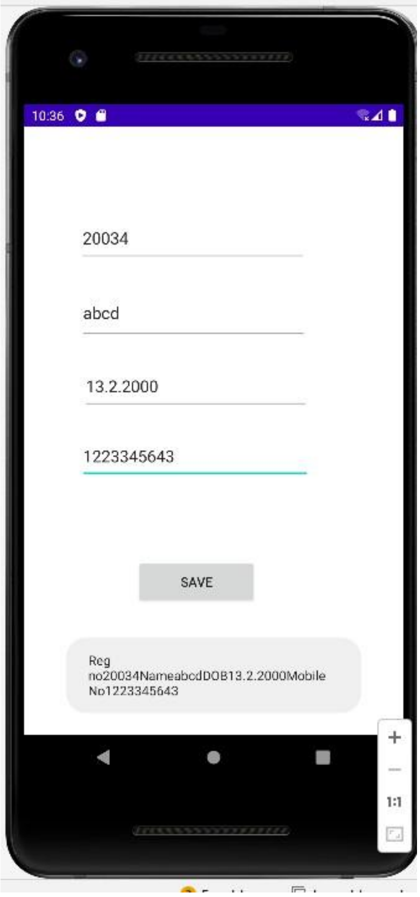
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">
```

```
<EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="247dp"
        android:layout_height="55dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Reg. NO"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.364"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.155" />

    <EditText
        android:id="@+id/editTextTextPersonName3"
        android:layout_width="247dp"
        android:layout_height="59dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.365"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName2"
        app:layout_constraintVertical_bias="0.054" />

    <EditText
        android:id="@+id/editTextTextPersonName4"
        android:layout_width="246dp"
        android:layout_height="54dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="D.O.B"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.382"
        app:layout_constraintStart_toStartOf="parent"
```

MainActivity.java

```
package com.example.registration;

import android.os.Bundle;
import android.widget.*;
import android.app.Activity;
import android.view.View;

public class MainActivity extends Activity {

    // Declaring UI Components
    EditText e1, e2, e3, e4;
    Button b1;

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

        // Initializing UI Components by their IDs
        e1 = (EditText) findViewById(R.id.editTextTextPersonName2);
        e2 = (EditText) findViewById(R.id.editTextTextPersonName3);
        e3 = (EditText) findViewById(R.id.editTextTextPersonName4);
        e4 = (EditText) findViewById(R.id.editTextTextPersonName5);
        b1 = (Button) findViewById(R.id.button);

        // Setting Click Listener for the Button
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View args) {
                // Fetching Input Data from EditText fields
                String s1 = e1.getText().toString();
                String s2 = e2.getText().toString();
                String s3 = e3.getText().toString();
                String s4 = e4.getText().toString();

                // Displaying the output using a Toast notification
                String message = "Reg No: " + s1 + "\nName: " + s2 + "\nDOB: " + s3 + "\nMobile:
" + s4;
                Toast.makeText(getBaseContext(), message, Toast.LENGTH_LONG).show();
            }
        });
    }
}
```

OUTPUT:



20034

abcd

13.2.2000

1223345643

Reg no20034NameabcdDOB13.2.2000Mobile No1223345643

RESULT:

Thus,theprogramhasbeenverified andcompleted successfully.

ExNo:3 **RegNo:**
Date: **Name:**

LOGIN PAGECREATION USING EXPLICIT INTENT

AIM:

Tocreatealoginpage usingexplicit intent.

ALGORITHM:

1. CreateaNewAndroid Project:
    - ClickNewinthetoolbar.
    - In thewindowthat appears,open theAndroidfolder,select AndroidApplication Project, and click next.
    - Providetheapplicationnameandtheprojectnameandthenfinallygivethe desired package name.
    - Choose a launcher icon for your application and then select Blank Activity and then click Next
    - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD (AndroidVirtualDevice):
    - ClickAndroidVirtualDeviceManager fromthe toolbar.
    - Inthe AndroidVirtualDeviceManagerpanel,clickNew.
    - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcardsize, and a skin (HVGA is default).
    - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.
5. Whentheapplicationstartsexplicitintentwhichiscreatedassecondactivity willbe invoked.
6. Amessage“WelcomeUser”isdisplayed.
7. ClosetheAndroidproject.

PROGRAM:

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">
```

```
<EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="236dp"
        android:layout_height="50dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.155" />

    <EditText
        android:id="@+id/editTextTextPassword"
        android:layout_width="247dp"
        android:layout_height="63dp"
        android:layout_marginTop="76dp"
        android:ems="10"
        android:inputType="textPassword"
        android:text="Password"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.53"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
        app:layout_constraintVertical_bias="0.002" />

    <Button
        android:id="@+id/button"
        android:layout_width="199dp"
        android:layout_height="60dp"
        android:layout_marginBottom="268dp"
        android:text="login"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPassword"
        app:layout_constraintVertical_bias="1.0" />

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

- Copyactivity_main.xmlandrenamethefilenamedassecond_activity_main.xmlthen save into same place.

Second_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=".second_activity_main">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login Created"
        android:textSize="24sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

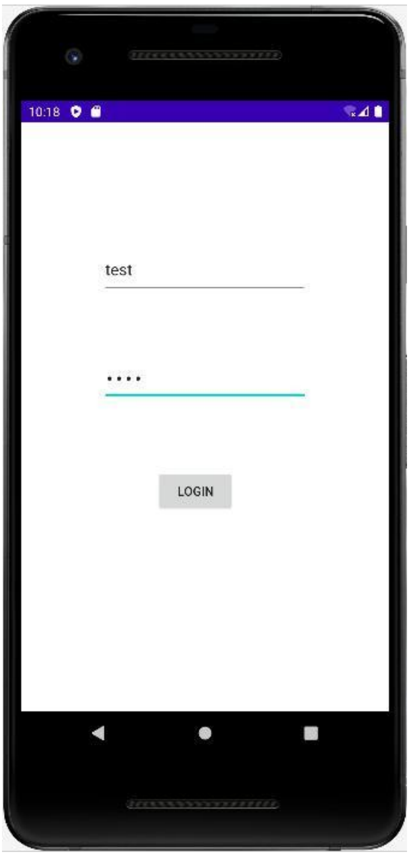
```
    package com.example.intent;

    import android.os.Bundle;
    import android.app.Activity;
    import android.content.Intent;
    import android.view.View;
    import android.widget.Button;
    import android.widget.EditText;
    import android.widget.Toast;

    public class MainActivity extends Activity {
        EditText e1, e2;
        Button b1;

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

            // Binding XML components
            e1 = (EditText) findViewById(R.id.editText1);
            e2 = (EditText) findViewById(R.id.editText2);
            b1 = (Button) findViewById(R.id.button1);

            b1.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View arg0) {
                    String uName = e1.getText().toString();
                    String pass = e2.getText().toString();
                    // Validation Logic
                    if (uName.equals("test") && pass.equals("test")) {
                        // Navigate to Second Activity
                        Intent i = new Intent(MainActivity.this, second.class);
                        startActivity(i);
                    } else {
                        // Show Login Failed message
                        Toast.makeText(getBaseContext(), "Login Failed",
    Toast.LENGTH_LONG).show();
                    }
                }
            });
        }
    }
```

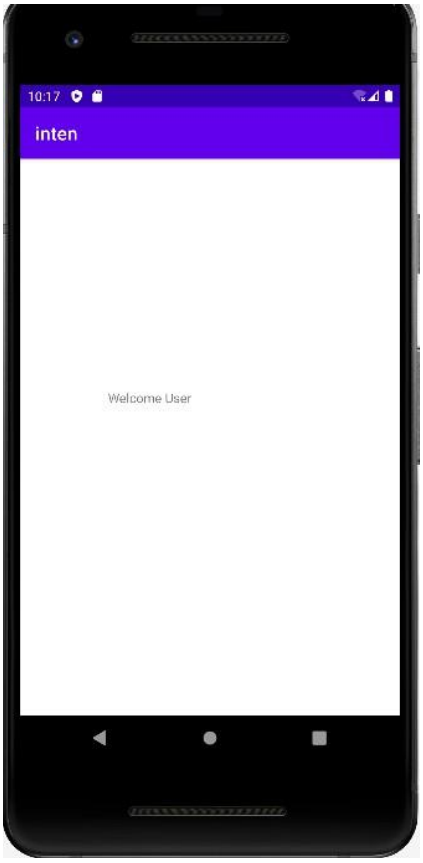
- CopyMainActivity.javaandrenamethefilenamedassecond.javathensaveinto same place.

Second.java

```
package com.example.intent;

import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.widget.*;

public class second extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        // Linking the Java file with the second activity layout
        setContentView(R.layout.second_activity_main);
    }
```

OUTPUT:





RESULT:

Thus,theprogramhasbeenverifiedandcompletedsuccessfully.

ExNo:4 **RegNo:**
Date: **Name:**

LOGIN PAGECREATION USING IMPLICIT INTENT

AIM:

Tocreatealogin page usingimplicit intent.

ALGORITHM:

1. CreateaNewAndroid Project:
   - ClickNewinthe toolbar.
   - In the windowthat appears,open theAndroidfolder,select AndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethe desired package name.
   - Choose a launcher icon for your application and then select Blank Activity and then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD (AndroidVirtualDevice):
   - ClickAndroidVirtualDeviceManager fromthe toolbar.
   - Inthe AndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcardsize, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.
5. Whentheapplicationstartsimplicitintent willbeinvoked.
6. Itdisplaysthe google chromehomepage.
7. ClosetheAndroidproject.

PROGRAM:

activity_main.xml

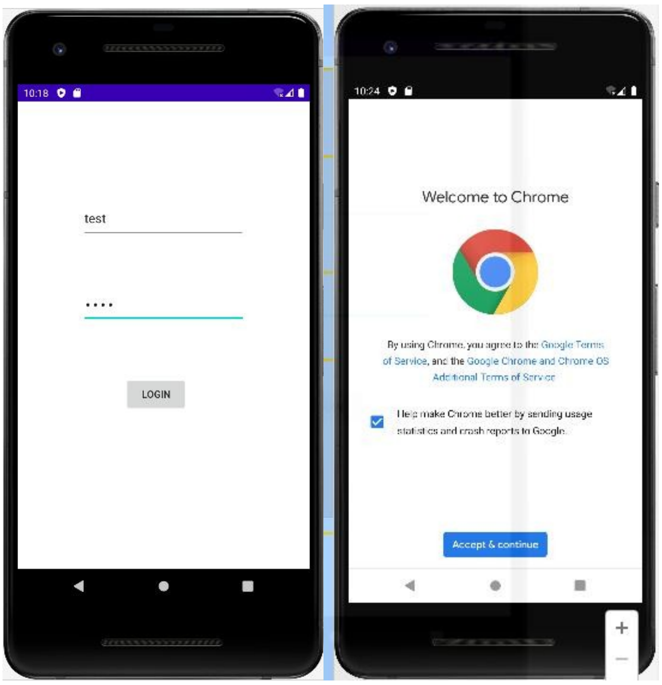
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">
```

```
<EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="230dp"
        android:layout_height="56dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.227" />

    <EditText
        android:id="@+id/editTextTextPassword"
        android:layout_width="231dp"
        android:layout_height="52dp"
        android:ems="10"
        android:inputType="textPassword"
        android:text="password"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName2"
        app:layout_constraintVertical_bias="0.164" />

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.466"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPassword"
        app:layout_constraintVertical_bias="0.253" />

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

MainActivity.java

```
package com.example.intent;

import android.net.Uri;
import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends Activity {
   EditText e1, e2;
   Button b1;

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

      // Binding UI components from XML
      e1 = (EditText) findViewById(R.id.editTextTextPersonName2);
      e2 = (EditText) findViewById(R.id.editTextTextPassword);
      b1 = (Button) findViewById(R.id.button);

      // Setting up the click listener for the button
      b1.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View arg0) {
            // Creating an Implicit Intent to open a Web Page
            Intent i = new Intent(Intent.ACTION_VIEW,
Uri.parse("http://www.google.com"));
            startActivity(i);
         }
      });
   }
}
```

OUTPUT:



test

••••

Welcome to Chrome

By using Chrome, you agree to the Google Terms of Service, and the Google Chrome and Chrome OS Additional Terms of Service

☑ Help make Chrome better by sending usage statistics and crash reports to Google.

RESULT:

Thus,theprogramhasbeenverifiedandcompletedsuccessfully.

ExNo:5 **RegNo:**
Date: **Name:**

IMPLEMENTTIME PICKERANDDISPLAYSELECTED TIME

AIM:

Todisplay theselectedtimefromthetimerusingtime picker

ALGORITHM:

1. Createa NewAndroidProject:
   - ClickNewinthetoolbar.
   - Inthewindowthatappears,opentheAndroidfolder,selectAndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethedesired package name.
   - Choosealaunchericonforyourapplicationandthenselect BlankActivityand then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD(AndroidVirtualDevice):
   - clickAndroidVirtualDeviceManagerfromthetoolbar.
   - IntheAndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcard size, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.
5. Whentheapplicationstartstimepickerevent willbe invoked.
6. Itdisplaysthecurrenttimewhichissetinthetimepickercontrol.
7. ClosetheAndroidproject.

PROGRAM:

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">
```

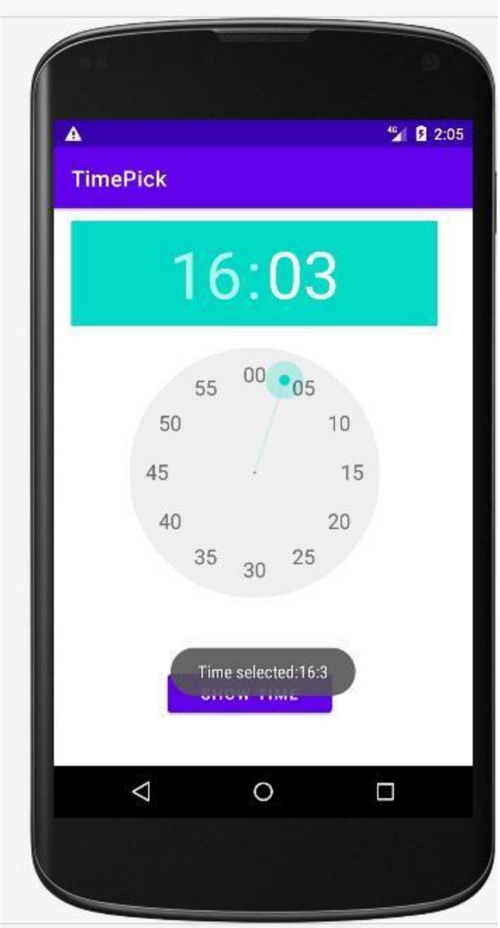
```
<TimePicker
        android:id="@+id/timepk1"
        android:layout_width="336dp"
        android:layout_height="395dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.333"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.101"
        tools:ignore="MissingConstraints" />

    <Button
        android:id="@+id/button"
        android:layout_width="151dp"
        android:layout_height="48dp"
        android:text="Show Time"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.446"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/timepk1"
        app:layout_constraintVertical_bias="0.26" />

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

MainActivity.java:

```
package com.example.timepick;
importandroidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
importandroid.widget.Button;
importandroid.widget.TimePicker;
import android.widget.Toast;
publicclassMainActivityextendsAppCompatActivity{ @

    Override

protectedvoidonCreate(BundlesavedInstanceState){
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        Buttonb1=(Button) findViewById(R.id.button);

b1.setOnClickListener(newView.OnClickListener()
        {
          @Override

publicvoidonClick(View arg0)
```

```
            {
                TimePicker t1=(TimePicker)findViewById(R.id.timepk1);
t1.setIs24HourView(true);
Toast.makeText(getBaseContext(),"Timeselected:"+t1.getCurrentHour()+":"
                        +t1.getCurrentMinute(),Toast.LENGTH_SHORT).show();
            }
        });

    }
}
```

OUTPUT:



Time selected:16:3

RESULT:

Thus,theprogramhasbeenexecuted andcompletedsuccessful

ExNo:6 **RegNo:**
Date: **Name:**

IMPLEMENTDATEPICKERANDDISPLAYSELECTEDDATE

AIM:

Todisplaytheselecteddate fromthe calendarusingdate picker

ALGORITHM:

1. CreateaNewAndroid Project:
   - ClickNewinthetoolbar.
   - Inthewindowthatappears,opentheAndroidfolder,selectAndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethedesired package name.
   - Choosealaunchericonforyourapplicationandthenselect BlankActivityand then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD(AndroidVirtualDevice):
   - clickAndroidVirtualDeviceManagerfromthetoolbar.
   - IntheAndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcard size, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.
5. Whentheapplicationstartsdatetimeevent willbeinvoked.
6. Itdisplaysthecurrentdateandtime.
7. ClosetheAndroidproject.

PROGRAM:

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">
```

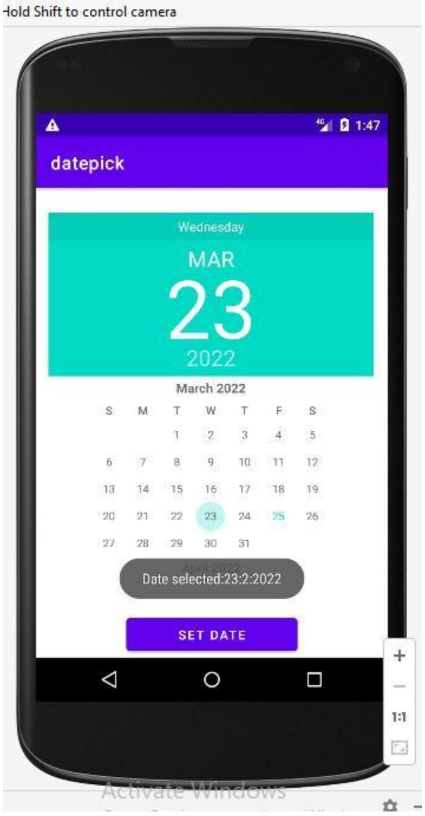
```
<DatePicker
      android:id="@+id/datepk1"
      android:layout_width="355dp"
      android:layout_height="453dp"
      app:layout_constraintBottom_toBottomOf="parent"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintHorizontal_bias="0.47"
      app:layout_constraintStart_toStartOf="parent"
      app:layout_constraintTop_toTopOf="parent"
      app:layout_constraintVertical_bias="0.044" />

   <Button
      android:id="@+id/button"
      android:layout_width="187dp"
      android:layout_height="48dp"
      android:text="Set Date"
      app:layout_constraintBottom_toBottomOf="parent"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintStart_toStartOf="parent"
      app:layout_constraintTop_toBottomOf="@+id/datepk1"
      app:layout_constraintVertical_bias="0.877" />

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

MainActivity.java:

```
   package com.example.datepick;

   import androidx.appcompat.app.AppCompatActivity;
   import android.os.Bundle;
   import android.view.View;
   import android.widget.Button;
   import android.widget.DatePicker;
   import android.widget.Toast;

   public class MainActivity extends AppCompatActivity {

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

         // Initializing the Button from XML
         Button b1 = (Button) findViewById(R.id.button);

         b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
               // Initializing the DatePicker
               DatePicker d1 = (DatePicker) findViewById(R.id.datepk1);

               // Fetching Day, Month and Year from DatePicker
               int day = d1.getDayOfMonth();
               int month = d1.getMonth() + 1; // Months start from 0 (Jan is 0)
```

```
                int year = d1.getYear();

                // Displaying the selected date using Toast
                String selectedDate = "Date selected: " + day + "/" + month + "/" + year;
                Toast.makeText(getBaseContext(), selectedDate,
    Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

OUTPUT:



S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

Date selected:23:2:2022

RESULT:

Thus,theprogramhasbeenexecuted andcompletedsuccessfully.

ExNo:7 **RegNo:**
Date: **Name:**

STUDENT INFORMATION SYSTEMUSING LIST VIEW

AIM:

To create a student information system using list view.

DESIGN:

ALGORITHM:

1. CreateaNewAndroid Project:
   - Click New in the toolbar.
   - In the window that appears,open theAndroidfolder,select AndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethe desired package name.
   - Choose a launcher icon for your application and then select Blank Activity and then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD (AndroidVirtualDevice):
   - Click Android Virtual Device Manager from the toolbar.
   - Inthe AndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcardsize, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Design the graphical layout.
4. Run the application.

PROGRAM:

activity_main.xml

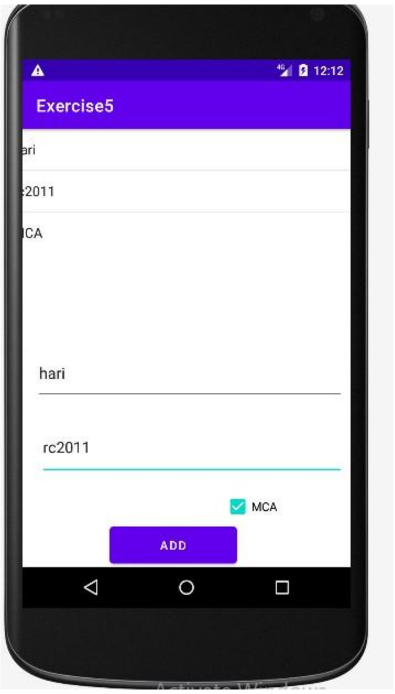
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
   xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">

   <ListView
      android:id="@+id/List1"
      android:layout_width="412dp"
```

```
        android:layout_height="319dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.0" />

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="361dp"
        android:layout_height="65dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.68"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.566" />

    <EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="356dp"
        android:layout_height="68dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Register Number"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.709"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
        app:layout_constraintVertical_bias="0.16" />

    <CheckBox
        android:id="@+id/checkBox"
        android:layout_width="148dp"
        android:layout_height="61dp"
        android:text="MCA"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="1.0"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName2"
        app:layout_constraintVertical_bias="0.102" />

    <Button
        android:id="@+id/button"
        android:layout_width="149dp"
        android:layout_height="55dp"
        android:onClick="clickme"
        android:text="Add"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.435"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/checkBox"
        app:layout_constraintVertical_bias="0.879" />

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

MainActivity.java

```
package com.example.exercise5;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.ListView;

public class MainActivity extends AppCompatActivity {
    // Declaring UI Components
    EditText e1, e2;
    CheckBox c1;
    Button b1;

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

        // Initializing UI Components
        e1 = (EditText) findViewById(R.id.editTextTextPersonName);
        e2 = (EditText) findViewById(R.id.editTextTextPersonName2);
        c1 = (CheckBox) findViewById(R.id.checkBox);
        b1 = (Button) findViewById(R.id.button);
    }

    // Method triggered by the Button onClick attribute
    public void clickme(View v) {
        ListView lv = (ListView) findViewById(R.id.List1);

        String str1 = e1.getText().toString(); // Name
        String str2 = e2.getText().toString(); // Register Number
        String str3 = "";

        // Checking if CheckBox is selected
        if (c1.isChecked()) {
            str3 = c1.getText().toString(); // "MCA"
        }

        // Creating an Array of input data
        String[] data = { "Name: " + str1, "Reg No: " + str2, "Course: " + str3 };



// Setting up the ArrayAdapter
        ArrayAdapter<String> adapter = new ArrayAdapter<String>(
            this,
            android.R.layout.simple_list_item_1,
            data
        );

        // Binding the adapter to the ListView
        lv.setAdapter(adapter);
    }
}
```

OUTPUT:



ari

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☑ MCA

RESULT:

Thus,theprogramhasbeenverified andcompleted successfully.

ExNo:8 **RegNo:**
Date: **Name:**

Generate Context Menu using Android Application

AIM:

To generate context menu option using Android application.

PROGRAM:

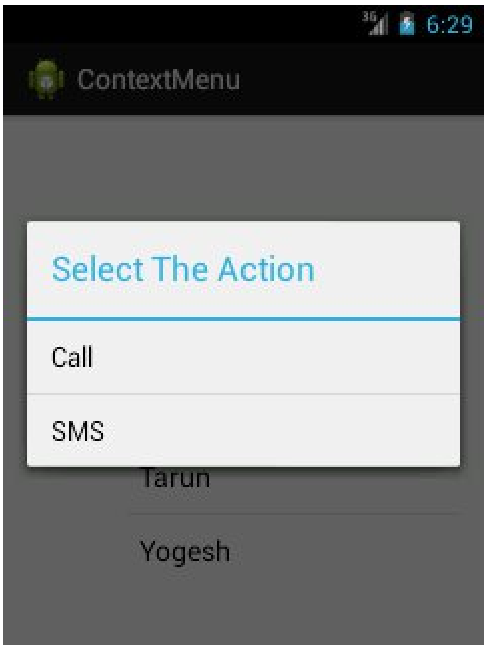
//Activity_main.xml

```
<?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/container"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   android:padding="16dp"
   tools:context=".MainActivity">

   <ListView
      android:id="@+id/listView1"
      android:layout_width="match_parent"
      android:layout_height="match_parent"
      android:layout_alignParentStart="true"
      android:layout_alignParentTop="true"
      android:dividerHeight="1dp" />

</RelativeLayout>
```

//MainActivity.java

```
package com.example.context_menu;

import android.app.Activity;
import android.os.Bundle;
import android.view.ContextMenu;
import android.view.ContextMenu.ContextMenuInfo;
import android.view.MenuItem;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends Activity {
        ListView listview;
        String contact[]={"ajay","sachin","sumit","lalit","ankit","shahid"};
        @Override
        protected void onCreate(Bundle savedInstanceState) {
                super.onCreate(savedInstanceState);
                setContentView(R.layout.activity_main);
                listview=(ListView)findViewById(R.id.listView1);
                ArrayAdapter<String>ad=new
ArrayAdapter<String>(this,android.R.layout.simple_list_item_1,contact);
                listview.setAdapter(ad);
                registerForContextMenu(listview);

        }
        @Override
public void onCreateContextMenu(ContextMenu menu,View v, ContextMenuInfo menuinfo)
        {
                super.onCreateContextMenu(menu, v, menuinfo);
                menu.setHeaderTitle("select the acction");
                menu.add(0,v.getId(),0,"call");
                menu.add(0,v.getId(),0,"sms");


        }
        @Override
        public boolean onContextItemSelected(MenuItem item)
        {
                if(item.getTitle()=="call")
                {
                        Toast.makeText(this, "Now Call ", Toast.LENGTH_LONG).show();
                }
                else if(item.getTitle()=="sms")
                {
                        Toast.makeText(this, "Now sms ", Toast.LENGTH_LONG).show();
                }

                return true;

        }

}
```

INPUT AND OUTPUT:



RESULT:

Thus the program has been completed successfully.

ExNo:9 **RegNo:**

Date: **Name:**

CREATE AN APPLICATION FOR OPTION MENU

AIM:

Tocreatean applicationforoptionmenu

ALGORITHM:

1. CreateaNewAndroid Project:
   - ClickNewinthetoolbar.
   - Inthewindowthatappears,opentheAndroidfolder,selectAndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethedesired package name.
   - ChoosealaunchericonforyourapplicationandthenselectBlankActivityand then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD(AndroidVirtualDevice):
   - clickAndroidVirtualDeviceManagerfromthetoolbar.
   - IntheAndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcard size, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.
5. Whentheapplicationoptionmenuis displayed.
6. Theselectedoptionisdisplayedas message.
7. ClosetheAndroidproject.

PROGRAM:

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">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Long Press Me for Menu!"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

- ❖ Gotoresfolder ☾ rightclick ☾ new ☾ androidresourcefile ☾ FileName: menu ☾ Resource Type: menu ☾ ok(it creates menu folder under res)
- ❖ Selectmenu.xmlandwritethebelowcode

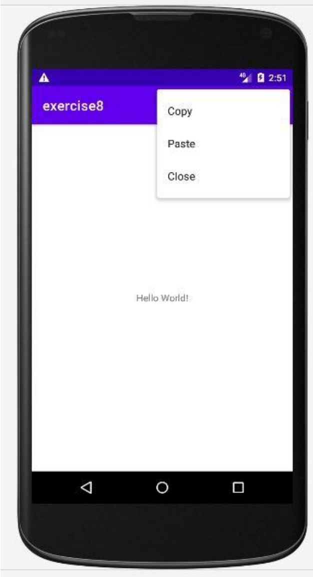
Menu(menu.xml)

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

    <item
        android:id="@+id/item1"
        android:title="Copy" />

    <item
        android:id="@+id/item2"
        android:title="Paste" />

    <item
        android:id="@+id/item3"
        android:title="Close" />

</menu>
```

MainActivity.java:

```
package com.example.exercise8;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.ContextMenu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;

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

        // XML-la irukka TextView-a find panrom
        TextView textView = findViewById(R.id.textView);

        // STEP 1: Register the view for Context Menu (Long press)
        registerForContextMenu(textView);
    }

    // STEP 2: Options Menu-vukku badhula onCreateContextMenu use pannanum
    @Override
    public void onCreateContextMenu(ContextMenu menu, View v,
ContextMenu.ContextMenuInfo menuInfo) {
        super.onCreateContextMenu(menu, v, menuInfo);
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.menu, menu); // Unga menu file name 'menu.xml' nu irundha
idha use pannunga
        menu.setHeaderTitle("Select Action");
    }

    // STEP 3: Handling item clicks
    @Override
    public boolean onContextItemSelected(MenuItem item) {
        int id = item.getItemId();

        if (id == R.id.item1) {
            Toast.makeText(this, "Copy Item Selected", Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.item2) {
            Toast.makeText(this, "Paste Item Selected", Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.item3) {
            Toast.makeText(this, "Close Item Selected", Toast.LENGTH_SHORT).show();
            return true;
        }

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

Output:



RESULT:

Thus,theprogramhasbeenexecuted andcompletedsuccessfully.

ExNo:10 **RegNo:**
Date: **Name:**

Create a Database with two fields using Shared Preference

AIM:

To Create a Database with two fields using Shared Preference

PROGRAM:

//Activity_main.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools"
   android:id="@+id/container"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context="com.example.persist.MainActivity"
   tools:ignore="MergeRootFrame" >

   <EditText
      android:id="@+id/editText1"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignLeft="@+id/editText3"
      android:layout_alignParentRight="true"
      android:layout_alignParentTop="true"
      android:ems="10" >

   </EditText>




  <EditText
      android:id="@+id/editText3"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentRight="true"
      android:layout_below="@+id/editText1"
      android:layout_marginTop="15dp"
      android:layout_toRightOf="@+id/textView1"
      android:ems="10"
      android:inputType="textEmailAddress" />
```

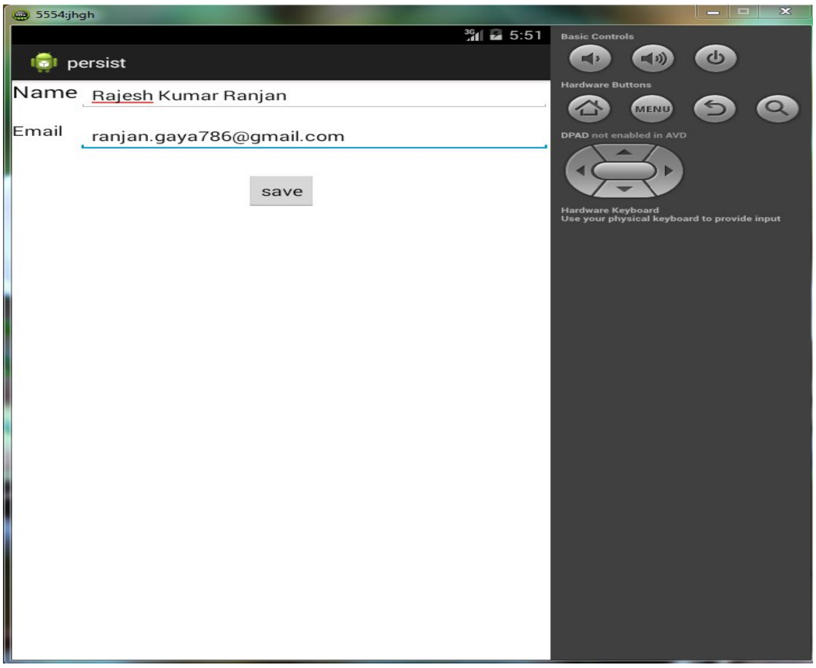
```
<TextView
     android:id="@+id/textView1"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_alignParentLeft="true"
     android:layout_alignParentTop="true"
     android:text="Name"
     android:textAppearance="?android:attr/textAppearanceLarge" />

  <TextView
     android:id="@+id/textView2"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_alignParentLeft="true"
     android:layout_alignTop="@+id/editText3"
     android:text="Email"
     android:textAppearance="?android:attr/textAppearanceMedium" />

  <Button
     android:id="@+id/button1"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_below="@+id/editText3"
     android:layout_centerHorizontal="true"
     android:layout_marginTop="30dp"
     android:text="save" />

</RelativeLayout>
```

//**MainActivity.java**

```
package com.example.persist;
import android.support.v7.app.ActionBarActivity;
import android.support.v7.app.ActionBar;
import android.support.v4.app.Fragment;
import android.content.Context;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.LayoutInflater;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.view.ViewGroup;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import android.os.Build;

public class MainActivity extends ActionBarActivity {
        EditText ed1,ed2;
        Button b1;
        public static final String MyPREFERENCES="Myprefs";
```

```
    public static final String Name="namekey";

    public static final String email="emailkey";
    SharedPreferences sharedPreferences;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ed1=(EditText)findViewById(R.id.editText1);
        ed2=(EditText)findViewById(R.id.editText3);
        b1=(Button)findViewById(R.id.button1);
        sharedPreferences=getSharedPreferences(MyPREFERENCES,
Context.MODE_PRIVATE);
        b1.setOnClickListener(new View.OnClickListener() {

            @Override
            public void onClick(View arg0) {
                // TODO Auto-generated method stub
                String n=ed1.getText().toString();
                String e=ed1.getText().toString();
                SharedPreferences.Editor editor=sharedPreferences.edit();
                editor.putString(Name, n);
                editor.putString(email, e);
                editor.commit();

                Toast.makeText(MainActivity.this, "thank's",
Toast.LENGTH_LONG).show();
            }
        });
    }}
```

INPUT AND OUTPUT:



Name Rajesh Kumar Ranjan

Email ranjan.gaya786@gmail.com

RESULT:

Thus the program has been completed successfully.

ExNo:11 **RegNo:**

Date: **Name:**

CREATEA DATABASEWITHTWO DIFFERENTFIELDS USING SQLite

AIM:

ToCreate aDatabasewithtwo fieldsusing SQLite.

ALGORITHM:

1. CreateaNewAndroid Project:
   - ClickNewinthetoolbar.
   - Inthewindowthatappears,opentheAndroidfolder,selectAndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethedesired package name.
   - Choosealaunchericonforyourapplicationandthenselect BlankActivityand then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD(AndroidVirtualDevice):
   - clickAndroidVirtualDeviceManagerfromthetoolbar.
   - IntheAndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcard size, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run the application.
5. Whentheapplicationstartstherespectivefunctionwillbeinvokedaccordingtothe button clicked.
6. ClosetheAndroidproject.

PROGRAM:

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"
    android:padding="16dp"
    tools:context=".MainActivity">
```

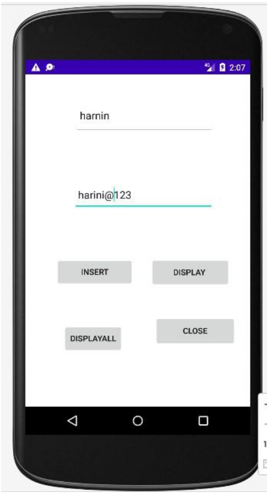
```
<EditText
    android:id="@+id/editTextTextPersonName"
    android:layout_width="0dp"
    android:layout_height="64dp"
    android:ems="10"
    android:hint="Enter Name"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.1"
    app:layout_constraintWidth_percent="0.8" />

 <EditText
    android:id="@+id/editTextTextPersonName2"
    android:layout_width="0dp"
    android:layout_height="64dp"
    android:layout_marginTop="20dp"
    android:ems="10"
    android:hint="Enter Reg No"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
    app:layout_constraintWidth_percent="0.8" />

 <Button
    android:id="@+id/button"
    android:layout_width="140dp"
    android:layout_height="wrap_content"
    android:layout_marginTop="40dp"
    android:text="Insert"
    app:layout_constraintEnd_toStartOf="@+id/button2"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName2" />

 <Button
    android:id="@+id/button2"
    android:layout_width="140dp"
    android:layout_height="wrap_content"
    android:text="Display"
    app:layout_constraintBottom_toBottomOf="@+id/button"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.5"
    app:layout_constraintStart_toEndOf="@+id/button"
    app:layout_constraintTop_toTopOf="@+id/button" />
 <Button
      android:id="@+id/button3"
      android:layout_width="140dp"
      android:layout_height="wrap_content"
      android:layout_marginTop="20dp"
      android:text="Display All"
      app:layout_constraintEnd_toStartOf="@+id/button4"
      app:layout_constraintHorizontal_bias="0.5"
      app:layout_constraintStart_toStartOf="parent"
      app:layout_constraintTop_toBottomOf="@+id/button" />

   <Button
      android:id="@+id/button4"
      android:layout_width="140dp"
      android:layout_height="wrap_content"
      android:text="Close"
      app:layout_constraintBottom_toBottomOf="@+id/button3"
      app:layout_constraintEnd_toEndOf="parent"
      app:layout_constraintHorizontal_bias="0.5"
      app:layout_constraintStart_toEndOf="@+id/button3"
      app:layout_constraintTop_toTopOf="@+id/button3" />

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

MainActivity.java

```
package com.example.databaseexec;

import android.os.Bundle;
import android.app.Activity;
import android.database.sqlite.*;
import android.database.*;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity {
   EditText ed1, ed2;
   Button b1, b2, b3, b4;
   SQLiteDatabase db;
   Cursor c;

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

      // Database initialization
      db = openOrCreateDatabase("empk121", MODE_PRIVATE, null);
      db.execSQL("CREATE TABLE IF NOT EXISTS emplogin1k(uname VARCHAR,
password VARCHAR);");

      // Finding Views
      ed1 = (EditText) findViewById(R.id.editTextTextPersonName);
```

```
        ed2 = (EditText) findViewById(R.id.editTextTextPersonName2);
        b1 = (Button) findViewById(R.id.button);      // Insert
        b2 = (Button) findViewById(R.id.button2);     // Display First
        b3 = (Button) findViewById(R.id.button3);     // Display Next
        b4 = (Button) findViewById(R.id.button4);     // Close

        // INSERT Logic
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                String name = ed1.getText().toString();
                String passwd = ed2.getText().toString();

                if (!name.isEmpty() && !passwd.isEmpty()) {
                    db.execSQL("INSERT INTO emplogin1k VALUES('" + name + "','" + passwd +
"');");
                    Toast.makeText(getBaseContext(), "Saved Successfully",
Toast.LENGTH_SHORT).show();

                    // Clear fields after saving
                    ed1.setText("");
                    ed2.setText("");
                } else {
                    Toast.makeText(getBaseContext(), "Please enter details",
Toast.LENGTH_SHORT).show();
                }
            }
        });

        // DISPLAY FIRST Logic
        b2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                c = db.rawQuery("SELECT * FROM emplogin1k;", null);
                if (c.moveToFirst()) {
                    ed1.setText(c.getString(0));
                    ed2.setText(c.getString(1));
                } else {
                    Toast.makeText(getBaseContext(), "No data found",
Toast.LENGTH_SHORT).show();
                }
            }
        });

        // DISPLAY NEXT Logic
        b3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                if (c != null) {
                    if (c.isLast()) {
                        c.moveToFirst();
                    } else {
                        c.moveToNext();
                    }
                    ed1.setText(c.getString(0));
                    ed2.setText(c.getString(1));
                }
            }
        });

        // CLOSE Logic
        b4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                finish();
            }
        });
      }
}
```

OUTPUT:



harnin

harini@123

RESULT:

Thus, the program has been verified and completed successfully.

ExNo: 12 **RegNo:**
Date: **Name:**

CREATEA DATABASEWITHTWO DIFFERENTFIELDS USING SQLite

AIM:

ToCreate aDatabasewithtwo fieldsusing SQLite.

ALGORITHM:

7. CreateaNewAndroid Project:
   - ClickNewinthetoolbar.
   - Inthewindowthatappears,opentheAndroidfolder,selectAndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethedesired package name.
   - ChoosealaunchericonforyourapplicationandthenselectBlankActivityand then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
8. CreateaNewAVD(AndroidVirtualDevice):
   - clickAndroidVirtualDeviceManagerfromthetoolbar.
   - IntheAndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcard size, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
9. Designthegraphical layout.
10. Run the application.
11. Whentheapplicationstartstherespectivefunctionwillbeinvokedaccordingtoth e button clicked.
12. ClosetheAndroidproject.

PROGRAM:

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"
   android:padding="16dp"
   tools:context=".MainActivity">
```

```
<EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="0dp"
        android:layout_height="64dp"
        android:ems="10"
        android:hint="Enter Name"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.1"
        app:layout_constraintWidth_percent="0.8" />

    <EditText
        android:id="@+id/editTextTextPersonName2"
        android:layout_width="0dp"
        android:layout_height="64dp"
        android:layout_marginTop="20dp"
        android:ems="10"
        android:hint="Enter Reg No"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName"
        app:layout_constraintWidth_percent="0.8" />

    <Button
        android:id="@+id/button"
        android:layout_width="140dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="40dp"
        android:text="Insert"
        app:layout_constraintEnd_toStartOf="@+id/button2"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/editTextTextPersonName2" />

    <Button
        android:id="@+id/button2"
        android:layout_width="140dp"
        android:layout_height="wrap_content"
        android:text="Display"
        app:layout_constraintBottom_toBottomOf="@+id/button"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toEndOf="@+id/button"
        app:layout_constraintTop_toTopOf="@+id/button" />
```

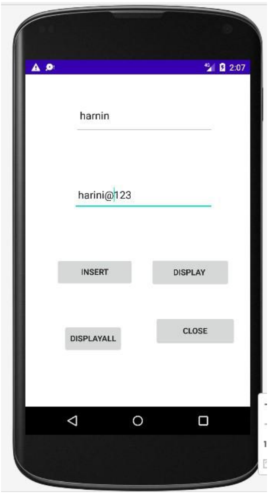
```
 <Button
        android:id="@+id/button3"
        android:layout_width="140dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="Display All"
        app:layout_constraintEnd_toStartOf="@+id/button4"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button" />

    <Button
        android:id="@+id/button4"
        android:layout_width="140dp"
        android:layout_height="wrap_content"
        android:text="Close"
        app:layout_constraintBottom_toBottomOf="@+id/button3"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.5"
        app:layout_constraintStart_toEndOf="@+id/button3"
        app:layout_constraintTop_toTopOf="@+id/button3" />

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

MainActivity.java

```
package com.example.databaseexec;

import android.os.Bundle;
import android.app.Activity;
import android.database.sqlite.*;
import android.database.*;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity {
    EditText ed1, ed2;
    Button b1, b2, b3, b4;
    SQLiteDatabase db;
    Cursor c;

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

        // Database initialization
        db = openOrCreateDatabase("empk121", MODE_PRIVATE, null);
        db.execSQL("CREATE TABLE IF NOT EXISTS emplogin1k(uname VARCHAR,
password VARCHAR);");

        // Finding Views
        ed1 = (EditText) findViewById(R.id.editTextTextPersonName);
        ed2 = (EditText) findViewById(R.id.editTextTextPersonName2);
        b1 = (Button) findViewById(R.id.button);      // Insert
        b2 = (Button) findViewById(R.id.button2);     // Display First
        b3 = (Button) findViewById(R.id.button3);     // Display Next
        b4 = (Button) findViewById(R.id.button4);     // Close

        // INSERT Logic
        b1.setOnClickListener(new View.OnClickListener() {
          @Override
          public void onClick(View arg0) {
            String name = ed1.getText().toString();
            String passwd = ed2.getText().toString();

            if (!name.isEmpty() && !passwd.isEmpty()) {
              db.execSQL("INSERT INTO emplogin1k VALUES('" + name + "','" + passwd +
"');");
              Toast.makeText(getBaseContext(), "Saved Successfully",
Toast.LENGTH_SHORT).show();

              // Clear fields after saving
              ed1.setText("");
              ed2.setText("");
            } else {
              Toast.makeText(getBaseContext(), "Please enter details",
Toast.LENGTH_SHORT).show();
            }
          }
        });

        // DISPLAY FIRST Logic
        b2.setOnClickListener(new View.OnClickListener() {
          @Override
          public void onClick(View arg0) {
            c = db.rawQuery("SELECT * FROM emplogin1k;", null);
            if (c.moveToFirst()) {
              ed1.setText(c.getString(0));
              ed2.setText(c.getString(1));
            } else {
              Toast.makeText(getBaseContext(), "No data found",
Toast.LENGTH_SHORT).show();
            }
          }
        });

        // DISPLAY NEXT Logic
        b3.setOnClickListener(new View.OnClickListener() {
          @Override
          public void onClick(View arg0) {
            if (c != null) {
              if (c.isLast()) {
                c.moveToFirst();
              } else {
                c.moveToNext();
              }
```

```
                    ed1.setText(c.getString(0));
                    ed2.setText(c.getString(1));
                }
            }
        });

        // CLOSE Logic
        b4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View arg0) {
                finish();
            }
        });
    }
}
```

OUTPUT:



harnin

harini@123

RESULT:

Thus, the program has been verified and completed successfully.

ExNo: 13 **RegNo:**
Date: **Name:**

SIMULATETHEPAINT BRUSH APPLICATION

AIM:

ToSimulatePaint Brush application

ALGORITHM:

1. CreateaNewAndroid Project:
   - ClickNewinthetoolbar.
   - Inthewindowthatappears,opentheAndroidfolder,selectAndroidApplication Project, and click next.
   - Providetheapplicationnameandtheprojectnameandthenfinallygivethedesired package name.
   - ChoosealaunchericonforyourapplicationandthenselectBlankActivityand then click Next
   - ProvidethedesiredActivitynameforyourprojectandthenclickFinish.
2. CreateaNewAVD(AndroidVirtualDevice):
   - clickAndroidVirtualDeviceManagerfromthetoolbar.
   - IntheAndroidVirtualDeviceManagerpanel,clickNew.
   - FillinthedetailsfortheAVD.Giveitaname,aplatformtarget,anSDcard size, and a skin (HVGA is default).
   - ClickCreateAVDandSelectthenewAVDfromtheAndroidVirtualDevice Manager and click Start.
3. Designthegraphical layout.
4. Run theapplication.

PROGRAM:

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">

<ImageView
      android:id="@+id/imageView2"
      android:layout_width="match_parent"
      android:layout_height="400dp"
      android:contentDescription="User Image"
      android:scaleType="centerCrop"
```

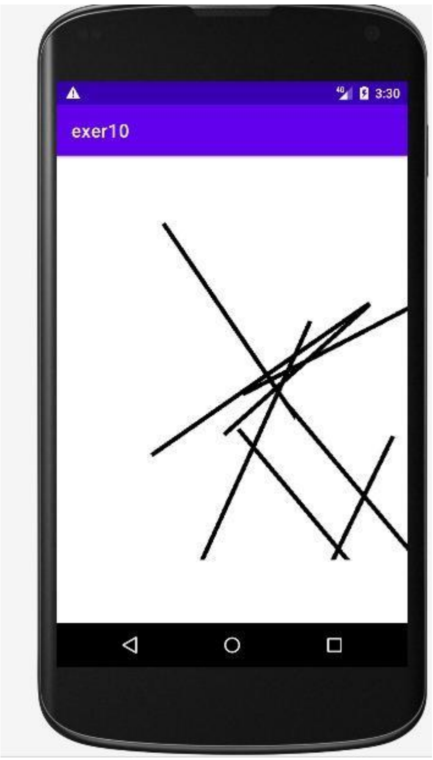
```
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.4"
        tools:srcCompat="@tools:sample/avatars" />

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

MainActivity.java

```
package com.example.exer10;

import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.graphics.Bitmap;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.os.Bundle;
import android.view.MotionEvent;
import android.view.View;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {

    ImageView i;
    Bitmap b;
    Canvas c;
    Paint p;
    float dx, dy, upx, upy;

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

        i = findViewById(R.id.imageView2);
        b = Bitmap.createBitmap(1000, 1000, Bitmap.Config.ARGB_8888);
        c = new Canvas(b);
        c.drawColor(Color.WHITE);

        i.setImageBitmap(b);

        // Paint style setup
        p = new Paint();
        p.setStrokeWidth(10);
        p.setColor(Color.BLACK);
        p.setAntiAlias(true); // Edges smooth-ah irukkum

        i.setOnTouchListener(new View.OnTouchListener() {
            @Override
```

```
         public boolean onTouch(View v, MotionEvent event) {
 int action = event.getAction();
            switch (action) {
               case MotionEvent.ACTION_DOWN:
                  dx = event.getX();
                  dy = event.getY();
                  break;
               case MotionEvent.ACTION_UP:
                  upx = event.getX();
                  upy = event.getY();
                  c.drawLine(dx, dy, upx, upy, p);
                  i.invalidate();                    break;
            }
            return true;
         }
      });
   }
}
```

OUTPUT:



RESULT:

Thus,the program has been verified and completed successful

ExNo: 14 **RegNo:**

Date: **Name:**

Draw an object

Aim:

To write the program in android studio to create an application that draws an object, and obtain the result.

Program:

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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <com.example.drawobject.DrawingView
        android:id="@+id/drawing_view"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

```
package com.example.drawobject;

import android.os.Bundle;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });
    }
}
```

ExampleInstrumentedTest.java

```
package com.example.drawobject;

import android.content.Context;

import androidx.test.platform.app.InstrumentationRegistry;
import androidx.test.ext.junit.runners.AndroidJUnit4;

import org.junit.Test;
import org.junit.runner.RunWith;

import static org.junit.Assert.*;

/**
 * Instrumented test, which will execute on an Android device.
 *
 * @see <a href="http://d.android.com/tools/testing">Testing
documentation</a>
 */
@RunWith(AndroidJUnit4.class)
public class ExampleInstrumentedTest {
    @Test
    public void useAppContext() {
        // Context of the app under test.
        Context appContext =
InstrumentationRegistry.getInstrumentation().getTargetContext();
        assertEquals("com.example.drawobject", appContext.getPackageName());
    }
}
```

ExampleUnitTest.java

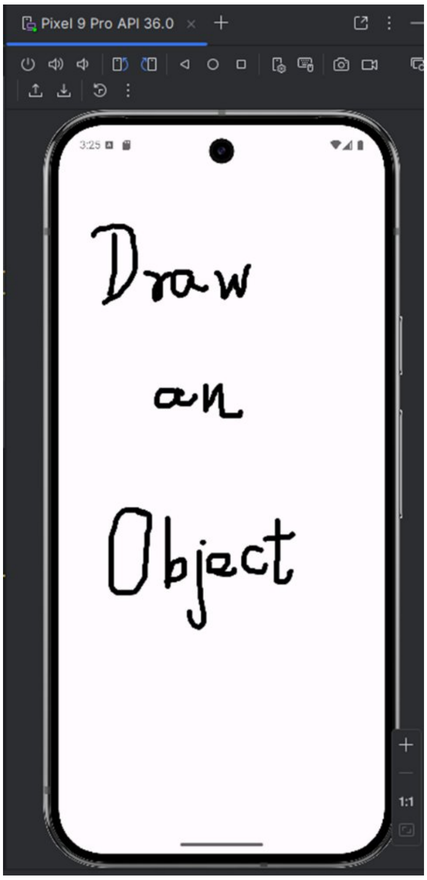
```
package com.example.drawobject;

import org.junit.Test;

import static org.junit.Assert.*;

/**
* Example local unit test, which will execute on the development machine
(host).
*
* @see <a href="http://d.android.com/tools/testing">Testing
```

```
documentation</a>
*/
public class ExampleUnitTest {
@Test
public void addition_isCorrect() {
assertEquals(4, 2 + 2);
}
}
```

DrawingView.java

```
package com.example.drawobject;
import android.content.Context;
import android.graphics.Canvas;
import android.graphics.Color;
import android.graphics.Paint;
import android.graphics.Path;
import android.util.AttributeSet;
import android.view.MotionEvent;
import android.view.View;
import androidx.annotation.Nullable;
public class DrawingView extends View {
private Path drawPath;
private Paint drawPaint, canvasPaint;
private int paintColor = Color.BLACK;
private Canvas drawCanvas;
    public DrawingView(Context context, @Nullable AttributeSet attrs) {
        super(context, attrs);
        setupDrawing();
    }

    private void setupDrawing() {
        drawPath = new Path();
        drawPaint = new Paint();
        drawPaint.setColor(paintColor);
        drawPaint.setAntiAlias(true);
        drawPaint.setStrokeWidth(20);
        drawPaint.setStyle(Paint.Style.STROKE);
        drawPaint.setStrokeJoin(Paint.Join.ROUND);
        drawPaint.setStrokeCap(Paint.Cap.ROUND);
        canvasPaint = new Paint(Paint.DITHER_FLAG);
    }

    @Override
    protected void onDraw(Canvas canvas) {
        canvas.drawPath(drawPath, drawPaint);
    }

    @Override
    public boolean onTouchEvent(MotionEvent event) {
        float touchX = event.getX();
        float touchY = event.getY();

        switch (event.getAction()) {
            case MotionEvent.ACTION_DOWN:
                drawPath.moveTo(touchX, touchY);
        break;
      case MotionEvent.ACTION_MOVE:
        drawPath.lineTo(touchX, touchY);
        break;
      case MotionEvent.ACTION_UP:
        break;
      default:
        return false;
    }

    invalidate();
    return true;
  }
}
```

OUTPUT:-



RESULT:

Thus,the program has been verified and completed successfully.

ExNo: 15 **RegNo:**
Date: **Name:**

Implement WebView

Aim:

To write the program in android studio to implement the concept of WebView, and obtain the result.

Program:

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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <android.webkit.WebView
        android:id="@+id/webview"
        android:layout_width="0dp"
        android:layout_height="0dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java

```java
package com.example.webview;

import android.os.Bundle;
import android.webkit.WebSettings;
import android.webkit.WebView;
import android.webkit.WebViewClient;

import androidx.activity.EdgeToEdge;
import androidx.activity.OnBackPressedCallback;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    private WebView myWebView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        // Enables edge-to-edge display (status bar and navigation bar integration)
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);

        // Applying system bar insets to prevent content from hiding under the status bar
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) ->
{
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
            return insets;
        });

        // Initialize WebView
        myWebView = findViewById(R.id.webview);

        // Configure WebView Settings
        WebSettings webSettings = myWebView.getSettings();
        webSettings.setJavaScriptEnabled(true); // Required for modern sites like Facebook

        // Set WebViewClient to keep link navigation inside the app
        myWebView.setWebViewClient(new WebViewClient());

        // Load the target URL
        myWebView.loadUrl("https://www.facebook.com");

        // Handle the Back Button behavior
        getOnBackPressedDispatcher().addCallback(this, new OnBackPressedCallback(true) {
            @Override
            public void handleOnBackPressed() {
                if (myWebView.canGoBack()) {
                    // Navigate back within the website history
                    myWebView.goBack();
                } else {
                    // No history left, exit the app
                    setEnabled(false);
                    getOnBackPressedDispatcher().onBackPressed();
                }
            }
        });
    }
}
```

ExampleInstrumentedTest.java

```
package com.example.webview;

import android.content.Context;
import androidx.test.platform.app.InstrumentationRegistry;
import androidx.test.ext.junit.runners.AndroidJUnit4;

import org.junit.Test;
import org.junit.runner.RunWith;

import static org.junit.Assert.*;

/**
 * Instrumented test, which will execute on an Android device.
 *
 * @see <a href="http://d.android.com/tools/testing">Testing documentation</a>
 */
@RunWith(AndroidJUnit4.class)
public class ExampleInstrumentedTest {

    @Test
    public void useAppContext() {
        // Get the Context of the app under test.
        Context appContext = InstrumentationRegistry.getInstrumentation().getTargetContext();

        // Check if the package name matches the expected name
        assertEquals("com.example.webview", appContext.getPackageName());
    }
}
```

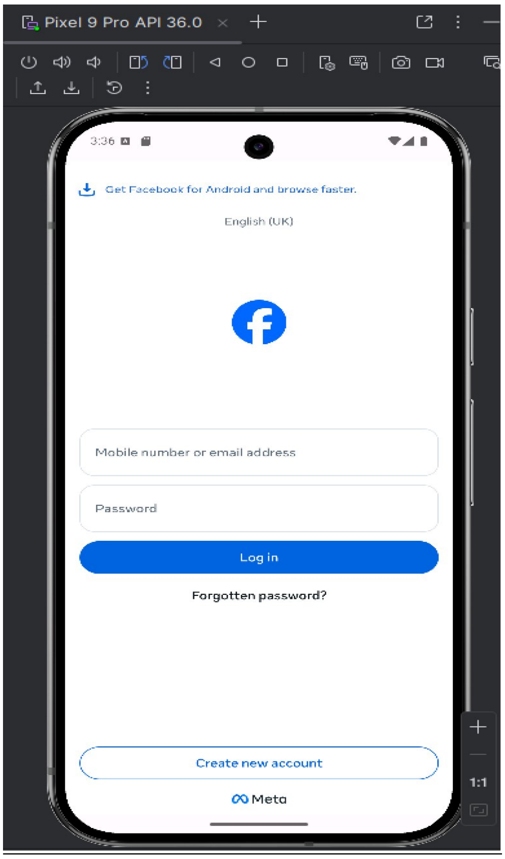
ExampleUnitTest.java

```
package com.example.webview;

import org.junit.Test;
import static org.junit.Assert.*;

/**
 * Example local unit test, which will execute on the development machine (host).
 *
 * @see <a href="http://d.android.com/tools/testing">Testing documentation</a>
 */
public class ExampleUnitTest {

    @Test
    public void addition_isCorrect() {
        // A simple math test to ensure the testing framework is working.
        // It checks if 4 is equal to the result of 2 + 2.
        assertEquals(4, 2 + 2);
    }
}
```

AndroidManifest.xml

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

    <uses-permission android:name="android.permission.INTERNET" />

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.WebView">

        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>

    </application>

</manifest>
```

Output:



RESULT:

Thus,the program has been verified and completed successfully.