Computer Science and Engineering

KPR Institute of Engineering and Technology

B.E. – COMPUTER SCIENCE AND ENGINEERING

LABORATORY RECORD

U19CS604 – MOBILE APPLICATION DEVELOPMENT LABORATORY

(Regulation 2019)

MAY 2022

KPR INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

COIMBATORE – 641 407

LABORATORY RECORD

Name : …….

Roll Number : …….

Subject Code & Title: …….

Department : …….

Year & Semester : …….

This is the certified record of work done by…….

Register Number ……

Staff In- Charge Head of the Department

Place:

Date:

He/ She has submitted the record for the End Semester Practical Examination held on ……

Internal Examiner External Examiner

Vision of the Institution

To become a premier institute of academic excellence by imparting technical, intellectual and professional skills to students for meeting the diverse needs of the industry, society, the nation and the world at large.

Mission of the Institution

1. Commitment to offer value-based education and enhancement of practical skills
2. Continuous assessment of teaching and learning process through scholarly activities
3. Enriching research and innovative activities in collaboration with industry and institute of repute
4. Ensuring the academic process to uphold culture, ethics and social responsibility

Vision of the Department

To foster the students by providing learner centric teaching environment, continuous learning, research and development to become thriving professionals and entrepreneurs to excel in the field of computer science and contribute to the society.

Mission of the Department

1. Providing value-based education and contented learning experience to the students

2. Educating the students with the state of art technologies and cultivating their proficiency in analytical and designing skills

3. Enabling the students to achieve a successful career in Computer Science and Engineering or related fields to meet the changing needs of various stakeholders

4. Guiding the students in research by nurturing their interest in continuous learning towards serving the society and the country

Programme Educational Objectives (PEOs)

The Graduates of Computer Science and Engineering will:

PEO1: Obtain knowledge in cutting edge technologies in the field of computer science, necessary to solve real time problems through value-based education

PEO2: Possess skills for team building, leadership quality and ethical values necessary to function productively and professionally

PEO3: Develop innovative ideas to establish themselves as professionals and entrepreneurs in computing industry

PEO4: Continue to learn new technologies through higher studies and research

Programme Outcomes (POs)

Graduates of Computer Science and Engineering will have:

PO1 Engineering Knowledge: An ability to apply the knowledge of mathematics, science, engineering and computing appropriate to computer science and engineering

PO2 Problem Analysis: An ability to understand, analyze, formulate and solve engineering problems using principles of mathematics and computer science

PO3 Design/development of Solutions: An ability to design and construct software system, component or process to meet the desired needs within the realistic constraints

PO4 Conduct Investigations of Complex Problems: An ability to use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, synthesis of information to provide valid conclusions

PO5 Modern Tool Usage: An ability to create, select and apply appropriate techniques, resources and modern IT tools to complex engineering activities with an understanding of the limitations

PO6 The Engineer and Society: An understanding of professional, ethical, legal, security and social responsibilities.

PO7 Environment and Sustainability: An ability to understand the impact of engineering solutions in societal and environmental contexts for a sustainable development

PO8 Ethics: Ability to apply ethical principles and commit to professional ethics and responsibilities

PO9 Individual and Team Work: An ability to function effectively on multi-disciplinary teams to accomplish a common goal

PO10 Communication: An ability to communicate effectively with engineering community and society and be able to comprehend and write effective reports and documents, make effective presentations and give and receive clear instructions

PO11 Project Management and Finance: Demonstrate the understanding of engineering management principles and apply these to manage projects as a member and/or as a leader in a team

PO12 Life-long Learning: Recognize the need for lifelong learning in the context of technological change

Programme Specific Outcomes (PSOs)

Graduates of Computer Science and Engineering will have:

PSO1: An ability to identify and analyze data management system like data acquisition, big data so as to facilitate the students in solving problems using the techniques of data analytics

PSO2: An ability to apply design and development principles of hardware and software in emerging technology environments like cloud computing and cyber forensics

LIST OF EXPERIMENTS

S.NO	DATE	NAME OF THE EXPERIMENTS	PAGE NO	MARKS	SIGN
01		Write an android program to demonstrate scroll view and list view			
02		Develop an application that uses GUI components, font, Colors.			
03		Develop an application that uses a menu with 3 options for dialing a number, opening a website and to send an SMS. On selecting an option, the appropriate action should be invoked using intents.			
04		Develop an application that shows names as a list and on selecting a name it should show the details of the candidate on the next screen with a “Back” button. If the screen is rotated to landscape mode (with greater than height), then the screen should show list on left fragment and details on right fragment instead of second screen with back button. Use Fragment transactions and rotation event listener.			
05		Create an UI listing the diploma engineering branches. If user selects a branch name, display the number of semesters and subjects in each semester.			
06		Use content providers and permissions by implementing read phonebook contacts with content providers and display in the list.			
07		Create an application that will have spinner with list of animation names. on selecting animation name, that animation should affect on the images displayed below.			
08		Write an android program to demonstrate a Menu with name File with New and Open as menu items. Give toast messages on click of each menu item.			
09		Write an android program to switch from one activity to another using Intent. When the activity is changed			

		disable the use of back button to avoid going to previous activity.			
10		Develop a native calculator application to incorporate the linear layout with two input and one output text box. The input text box accepts only integer and floating-point values and the result is printed on the output text box.			
11		Develop an application that shows the current location's latitude and longitude continuously as the device is moving (tracking). Also the application that shows the current location on Google maps			
12		Create an application that uses a text file to store user names and passwords (tab separated fields and one record per line). When the user submits a login name and password through a screen, the details should be verified with the text file data and if they match, show a dialog saying that login is successful. Otherwise, show the dialog with Login Failed message.			

EX.NO : 01	Write an android program to demonstrate scroll view and list view
DATE :	

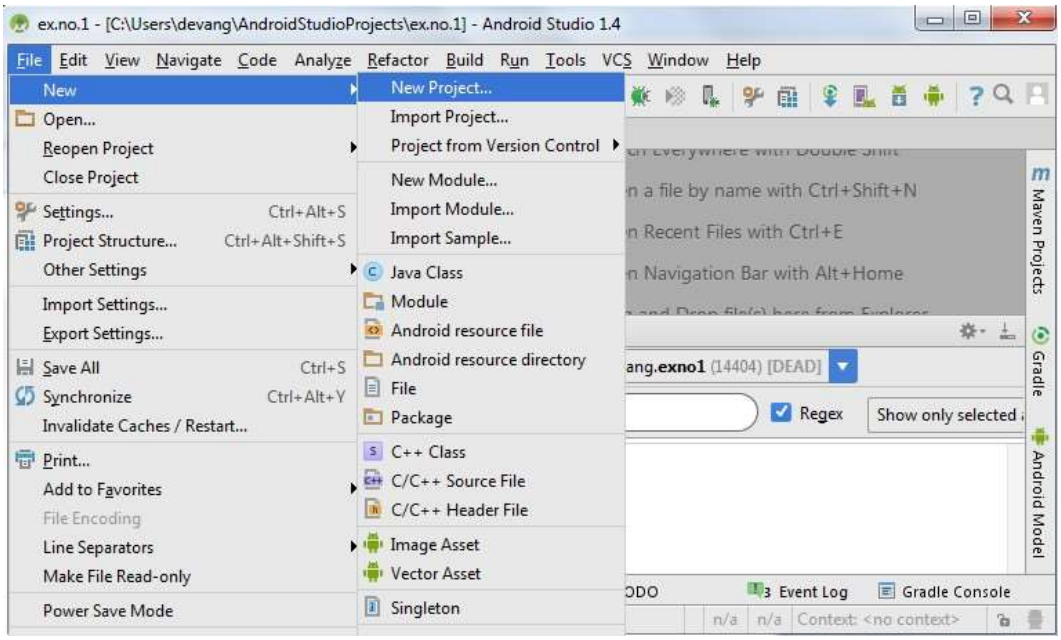
AIM :

To demontrate a Simple Android Application that uses scroll view and list view

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno1"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then select the **Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Program:

MainActivity.Java

```
package com.example.exp1;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
```

```
import android.widget.TextView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

import com.example.exp1.R;

public class MainActivity extends AppCompatActivity {
    ListView listView;
    TextView textView;
    String[] listItem;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        listView=(ListView)findViewById(R.id.listView);
        textView=(TextView)findViewById(R.id.textView);
        listItem = getResources().getStringArray(R.array.array_technology);

        final ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
                android.R.layout.simple_list_item_1, android.R.id.text1, listItem);

        listView.setAdapter(adapter);

        listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int position, long l) {
                // TODO Auto-generated method stub
                String value=adapter.getItem(position);
                Toast.makeText(getApplicationContext(),value,Toast.LENGTH_SHORT).show();

            }
        });

    }
}
```

Activity_main_xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textAppearance="?android:attr/textAppearanceMedium"
        android:text="ScrollView"
```

```
    android:id="@+id/textView"
    android:layout_gravity="center_horizontal"
    android:layout_centerHorizontal="true"
    android:layout_alignParentTop="true" />


<ScrollView
    android:id="@+id/scrollView"
    android:layout_width="fill_parent"
    android:layout_height="300dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_marginTop="30dp">


    <LinearLayout
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:orientation="vertical">

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 1" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 2" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 3" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 4" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 5" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 6" />

        <Button
```

```
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 7" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 8" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 9" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 10" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 11" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 12" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 13" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 14" />

        <Button
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:text="Button 15" />
    </LinearLayout>

</ScrollView>

<androidx.constraintlayout.widget.ConstraintLayout
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="List View"
            android:textAppearance="?android:attr/textAppearanceMedium"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent" />

        <ListView
            android:id="@+id/listView"
            android:layout_width="fill_parent"
            android:layout_height="300dp"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.956" />
    </androidx.constraintlayout.widget.ConstraintLayout>

</RelativeLayout>
```

Layout -> Right click -> new -> layout resource -> file name -> mylist.xml

Myist.xml

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

<TextView xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Medium Text"
    android:textStyle="bold"
    android:textAppearance="?android:attr/textAppearanceMedium"
    android:layout_marginLeft="10dp"
    android:layout_marginTop="5dp"
    android:padding="2dp"
    android:textColor="#4d4d4d"
    />
```

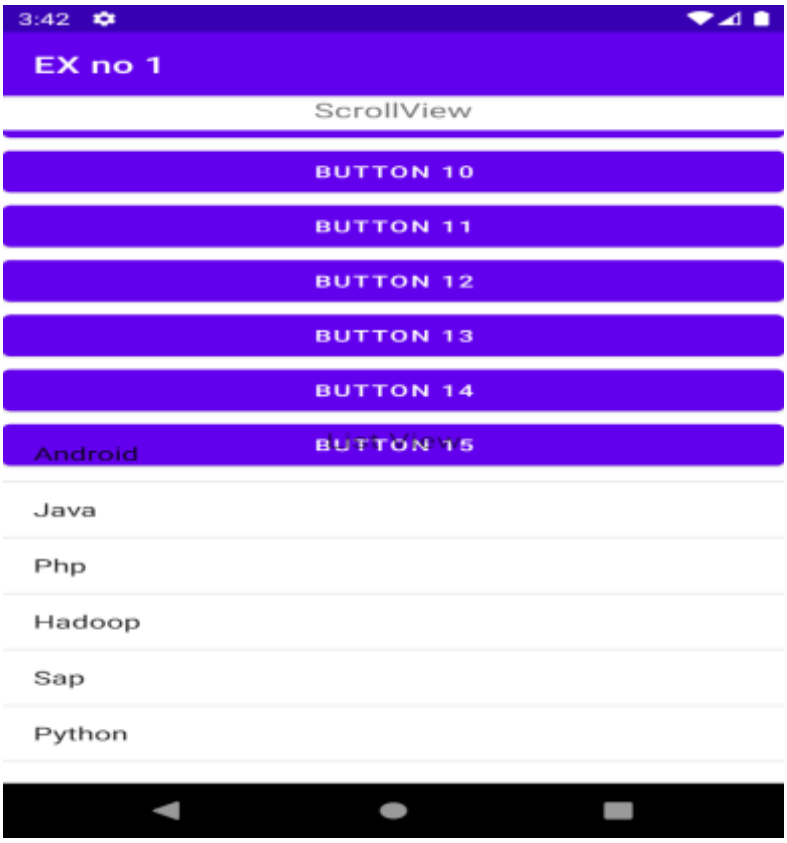
res→ values -> strings.xml

Strings.xml

```
<resources>
    <string name="app_name">EX no 1</string>

    <string-array name="array_technology">
        <item>Android</item>
        <item>Java</item>
```

```
        <item>Php</item>
        <item>Hadoop</item>
        <item>Sap</item>
        <item>Python</item>
        <item>Ajax</item>
        <item>C++</item>
        <item>Ruby</item>
        <item>Rails</item>
        <item>.Net</item>
        <item>Perl</item>
    </string-array>

</resources>
```

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

RESULT :

Thus a Simple Android Application that uses scroll view and list view is developed and executed successfully.

Ex. No: 02 **Develop an application that uses GUI components, Font and Colors**

Date:

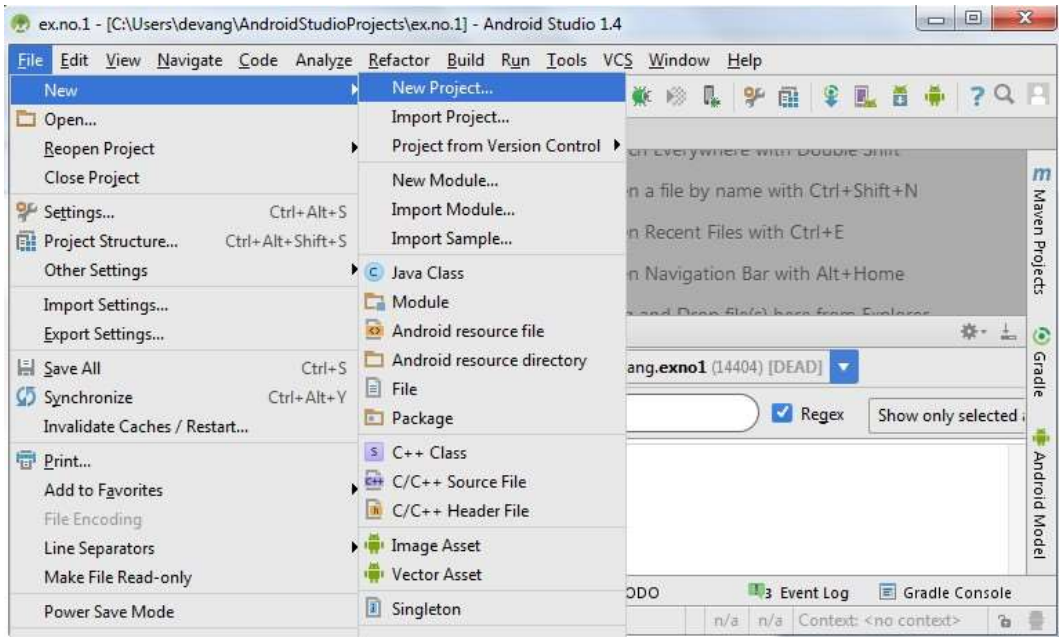
Aim:

To develop a Simple Android Application that uses GUI components, Font and Colors.

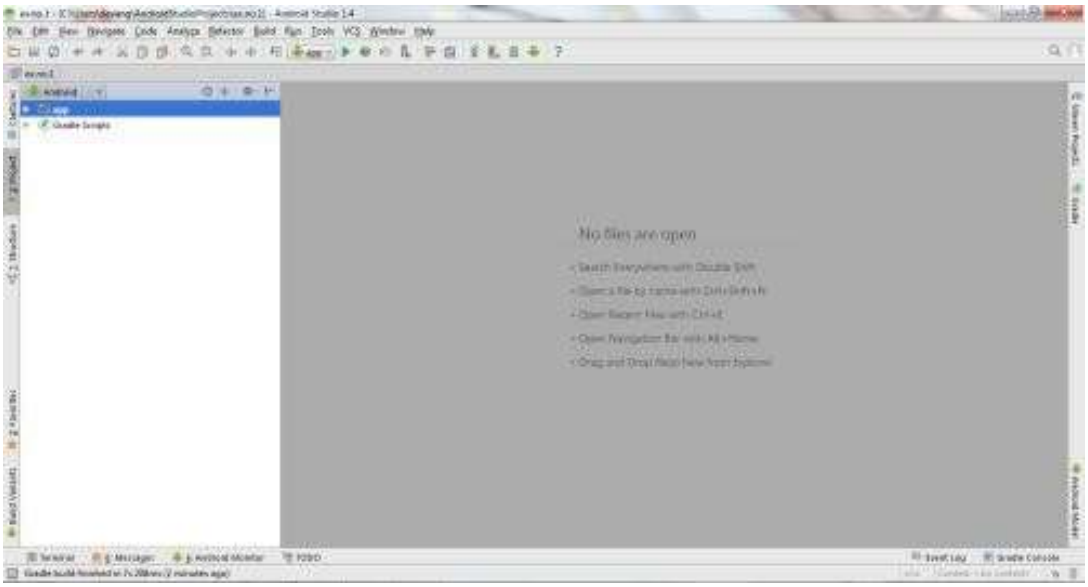
Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno1"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then select the **Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.



Designing layout for the Android Application:

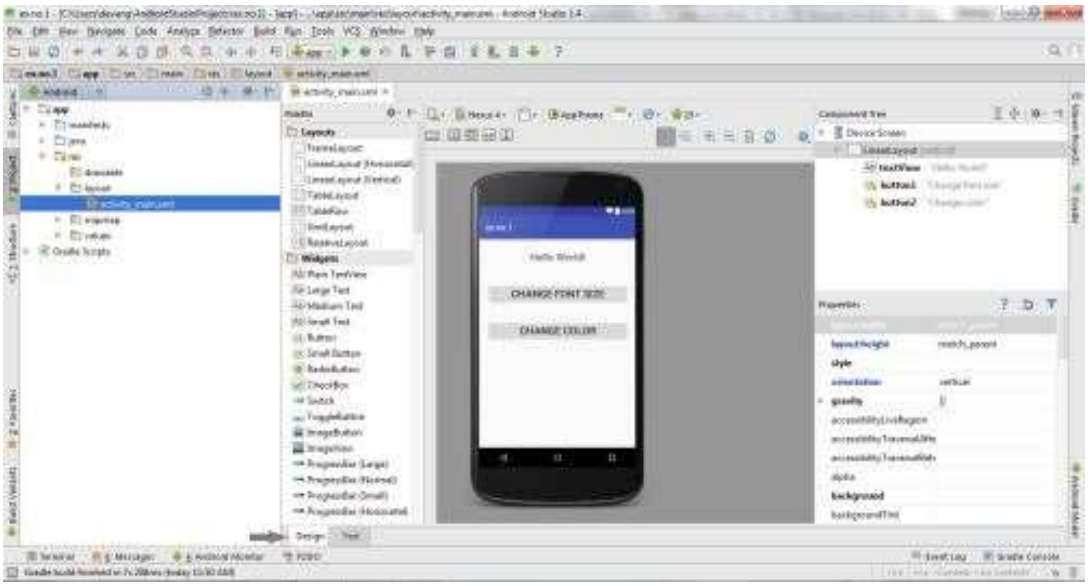
- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Code for 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="match_parent"
  android:layout_height="match_parent">
<TextView
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="30dp"
    android:gravity="center"
    android:text="Hello World!"
    android:textSize="25sp"
    android:textStyle="bold" />
<Button
    android:id="@+id/button1"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:gravity="center"
```

```
    android:text="Change font size"
    android:textSize="25sp" />


<Button
    android:id="@+id/button2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:gravity="center"
    android:text="Change color"
    android:textSize="25sp" />
 </LinearLayout>
```

- Now click on Design and your application will look as given below.



- So now the designing part is completed.

Java Coding for the Android Application:

- Click on **app -> java -> com.example.exno1 -> MainActivity**.
- Then delete the code which is there and type the code as given below.

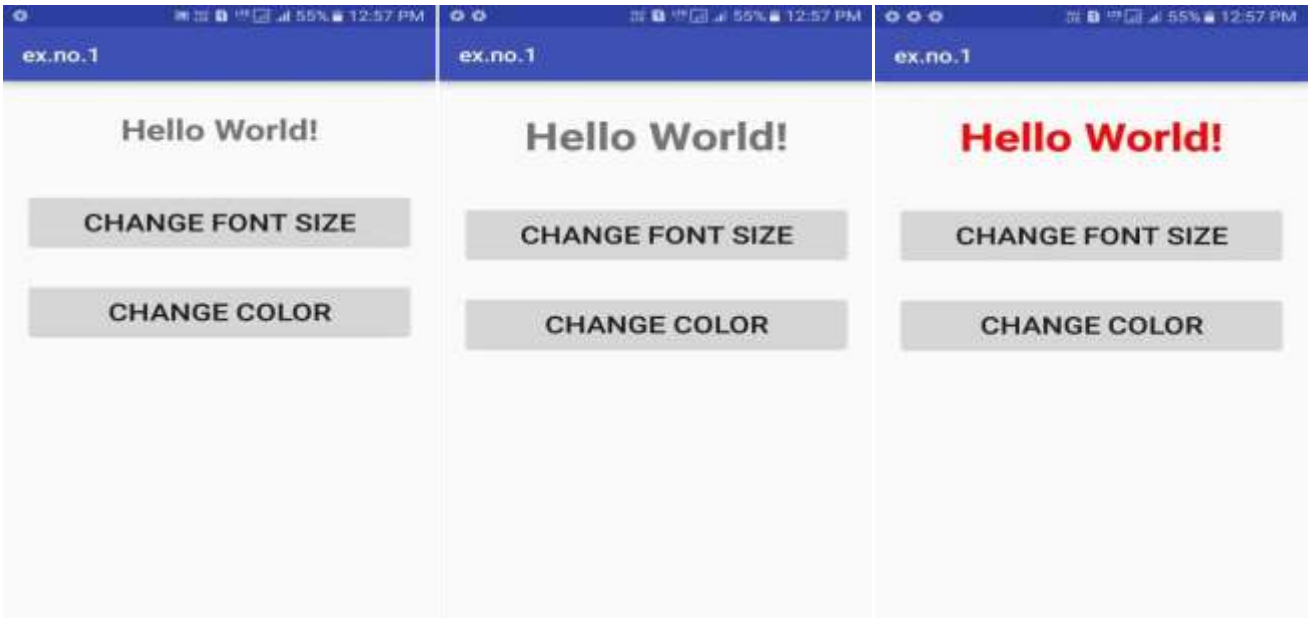
Code for MainActivity.java:

```
package com.example.exno1;
 import android.graphics.Color;
//import android.support.v7.app.AppCompatActivity;
 import android.os.Bundle;
import android.view.View;
import android.widget.Button;
 import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity
{
  int  ch=1;
  float font=30;


  @Override
  protected void onCreate(Bundle savedInstanceState)
  {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    final TextView t= (TextView)
    findViewById(R.id.textView);Button b1= (Button)
    findViewById(R.id.button1);
    b1.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        t.setTextSize(font);
                    font = font + 5;
              if (font == 50) font = 30;
                                                  }
                                                });
    Button b2= (Button) findViewById(R.id.button2);
    b2.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        switch (ch) {
          case 1:
            t.setTextColor(Color.RED);
            break;
          case 2:
```

```
            t.setTextColor(Color.GREEN);
            break;
          case 3:
            t.setTextColor(Color.BLUE);
            break;
          case 4:
            t.setTextColor(Color.CYAN);
            break;
          case 5:
            t.setTextColor(Color.YELLOW);
            break;
          case 6:
            t.setTextColor(Color.MAGENTA);
            break;
        }
        ch++;
        if (ch == 7)

          ch = 1;
      }
    });
  }
}
```

- So now the Coding part is also completed.
- Now run the application to see the output.

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus a Simple Android Application that uses GUI components, Font and Colors is developed and executed successfully.

Ex. No: 03 **Develop an application that uses a menu with 3 options for dialing a number, opening a website and to send an SMS. On selecting an option, the appropriate action should be invoked using intents.**

Date:

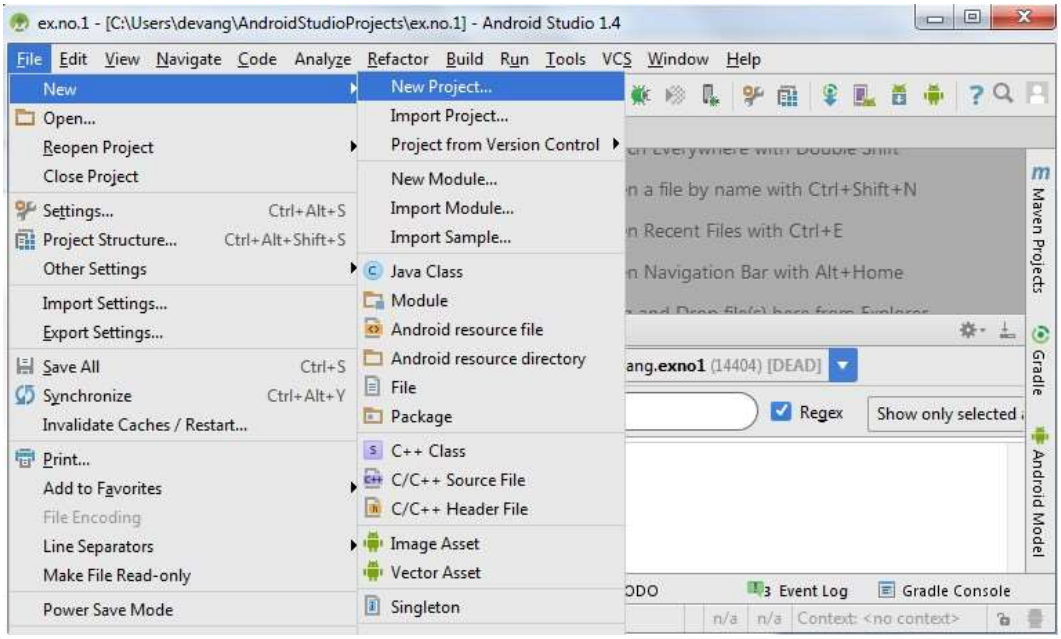
Aim:

To develop a Simple Android Application that uses a menu with 3 options for dialing a number, opening a website and to send an SMS. On selecting an option, the appropriate action should be invoked using intents.

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno1"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then select the **Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Program:

MainActivity.java

```
package com.example.exp3;

import android.app.PendingIntent;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.telephony.SmsManager;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

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

        Button call = findViewById(R.id.button1);
        Button send_sms = findViewById(R.id.button2);
        Button web = findViewById(R.id.button3);

        send_sms.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent=new Intent(getApplicationContext(),MainActivity.class);
                PendingIntent pi=PendingIntent.getActivity(getApplicationContext(), 0, intent,0);

                //Get the SmsManager instance and call the sendTextMessage method to send message
                SmsManager sms=SmsManager.getDefault();
                sms.sendTextMessage("123456789", null, "HEllO WORLD", pi,null);

                Toast.makeText(getApplicationContext(), "Message Sent
successfully!",Toast.LENGTH_LONG).show();
            }
        });

        call.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String mob = "123567";
                Intent cIntent = new Intent(Intent.ACTION_DIAL);
                cIntent.setData(Uri.parse("tel:" + mob));
                startActivity(cIntent);
            }
```

```
        });

        web.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String url = "http://www.google.com";
                Intent i = new Intent(Intent.ACTION_VIEW);
                i.setData(Uri.parse(url));
                startActivity(i);
            }
        });
    }
}
```

activity_main_xml

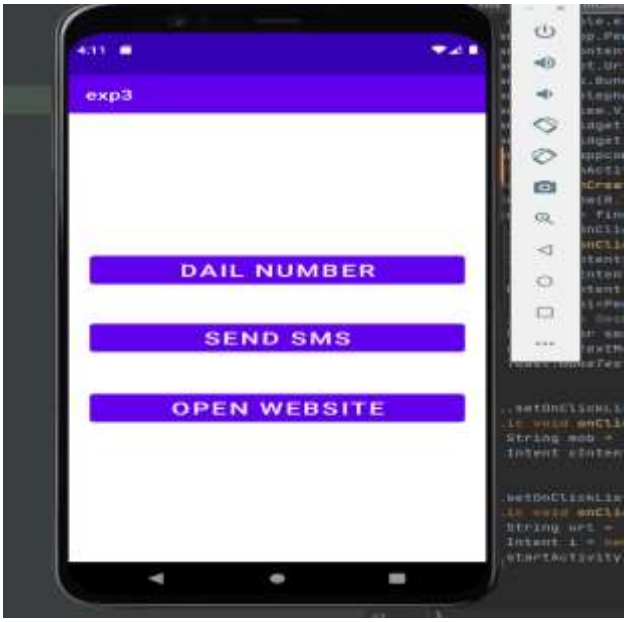
```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <Button
        android:id="@+id/button1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:gravity="center"
        android:text="Dail Number"
        android:textSize="25sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.975"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.325" />

    <Button
        android:id="@+id/button2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:gravity="center"
        android:text="Send SMS"
        android:textSize="25sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.4"
```

```
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/button3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="20dp"
        android:gravity="center"
        android:text="Open Website"
        android:textSize="25sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.6"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.682" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Anroidmanifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.exp3">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Exp3">
        <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>

     //Add this line alone

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

</manifest>
```

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, a Simple Android Application that uses menu with 3 options for dialing a number, opening a website and to send an SMS. On selecting an option, the appropriate action should be invoked using intents is developed and executed successfully.

Ex. No: 04 **Develop an application that shows names as a list and on selecting a name it should show the details of the candidate on the next screen with a "Back" button.**

Date: **If the screen is rotated to landscape mode (with greater than height), then the screen should show list on left fragment and details on right fragment instead of second screen with back button. Use Fragment transactions and rotation event listener.**

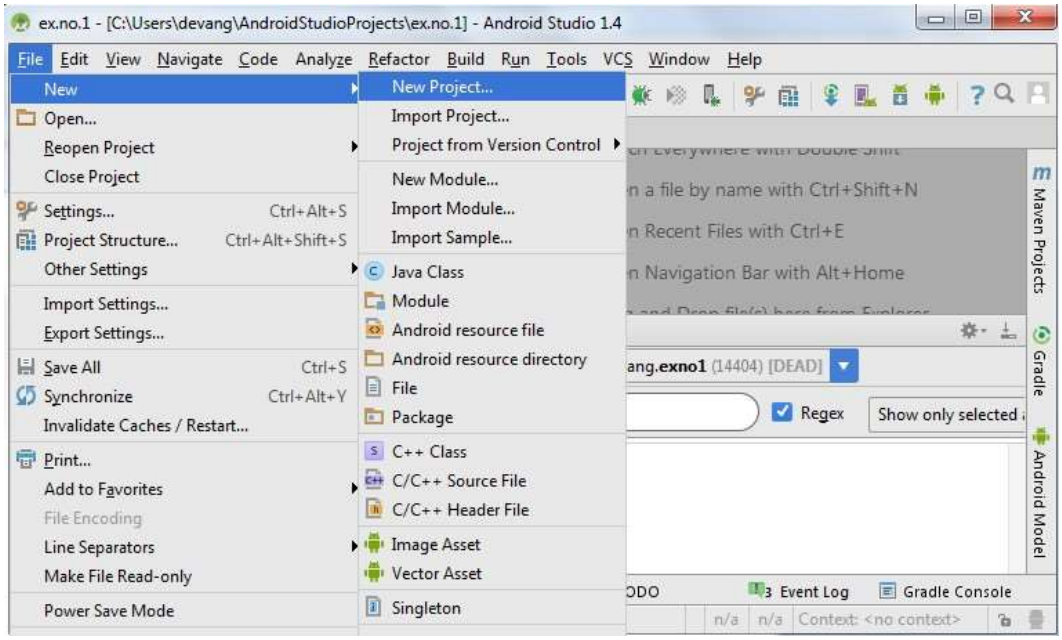
Aim:

To develop a Simple Android Application that shows names as a list and on selecting a name it should show the details of the candidate on the next screen with a "Back" button. If the screen is rotated to landscape mode (with greater than height), then the screen should show list on left fragment and details on right fragment instead of second screen with back button. Use Fragment transactions and rotation event listener.

Procedure:

Creating a New project:

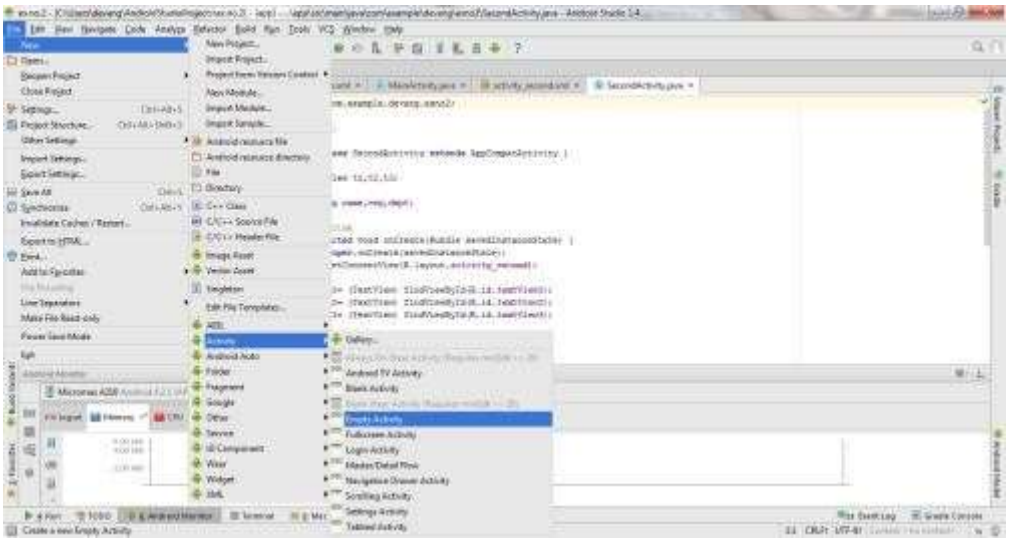
- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno1"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then select the **Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Creating Second Activity for the Android Application:

- Click on **File -> New -> Activity -> Empty Activity**.



- Type the Activity Name as **SecondActivity** and click Finish button.
- Thus Second Activity For the application is created.

Designing Layout for Main Activity:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Program:

Activity 2 creation

Java(left panel, RIGHT CLICK)→new→activity→EmptyActvity

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">

   <LinearLayout android:layout_width="match_parent" android:layout_height="100dp">
      <TextView
         android:id="@+id/textView" android:layout_width="match_parent"
android:layout_height="wrap_content" android:layout_margin="30dp" android:text="Details Form"
android:textSize="25sp" android:gravity="center"/>
   </LinearLayout>

   <GridLayout
      android:id="@+id/gridLayout" android:layout_width="match_parent"
android:layout_height="match_parent" android:layout_marginTop="100dp"
android:layout_marginBottom="200dp" android:columnCount="2" android:rowCount="3">
      <TextView
```

```
        android:id="@+id/textView1" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_margin="10dp" android:layout_row="0"
android:layout_column="0" android:text="Name" android:textSize="20sp" android:gravity="center"/>

    <EditText
        android:id="@+id/editText" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_margin="10dp" android:layout_row="0"
android:layout_column="1" android:ems="10"/>

    <TextView
        android:id="@+id/textView2" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_margin="10dp" android:layout_row="1"
android:layout_column="0" android:text="Reg.No" android:textSize="20sp" android:gravity="center"/>

    <EditText
        android:id="@+id/editText2" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_margin="10dp" android:layout_row="1"
android:layout_column="1" android:inputType="number" android:ems="10"/>

    <TextView
        android:id="@+id/textView3" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_margin="10dp" android:layout_row="2"
android:layout_column="0" android:text="Dept" android:textSize="20sp" android:gravity="center"/>
    <Spinner
        android:id="@+id/spinner" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_margin="10dp" android:layout_row="2"
android:layout_column="1" android:spinnerMode="dropdown"/>
  </GridLayout>
  <Button
    android:id="@+id/button" android:layout_width="wrap_content"
android:layout_height="wrap_content" android:layout_alignParentBottom="true"
android:layout_centerInParent="true" android:layout_marginBottom="150dp" android:text="Submit"/>

</RelativeLayout>
```

Activity2.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=".MainActivity2">


  <LinearLayout
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
```

```
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent">

        <TextView android:id="@+id/textView1" android:layout_width="wrap_content"
            android:layout_height="wrap_content" android:layout_margin="20dp" android:text="New Text"
android:textSize="30sp"
            tools:ignore="MissingConstraints" />

        <TextView android:id="@+id/textView2" android:layout_width="wrap_content"
            android:layout_height="wrap_content" android:layout_margin="20dp" android:text="New Text"
android:textSize="30sp"
            tools:ignore="MissingConstraints" />

        <TextView android:id="@+id/textView3" android:layout_width="wrap_content"
            android:layout_height="wrap_content" android:layout_margin="20dp" android:text="New Text"
android:textSize="30sp"
            tools:ignore="MissingConstraints" />

        <Button
            android:id="@+id/button2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="16dp"
            android:text="Back" />
    </LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.exp4;

import android.content.Intent;
//import android.support.v7.app.AppCompatActivity; import android.os.Bundle;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity2 extends AppCompatActivity {
    TextView t1,t2,t3;
    String name,reg,dept; @Override
    protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        assert getSupportActionBar() != null;   //null check
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        t1= (TextView) findViewById(R.id.textView1);
        t2= (TextView) findViewById(R.id.textView2);
```

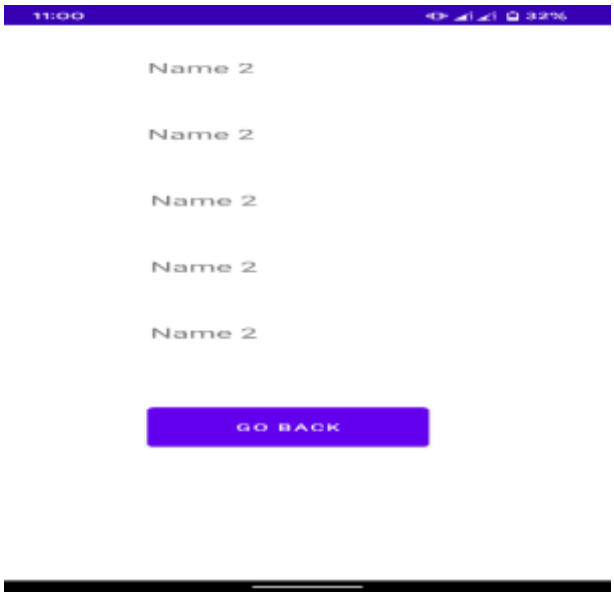
```
        t3= (TextView) findViewById(R.id.textView3);
//Getting the Intent
        Intent i = getIntent();
//Getting the Values from First Activity using the Intent received
        name=i.getStringExtra("name_key");
        reg=i.getStringExtra("reg_key");
        dept=i.getStringExtra("dept_key");
//Setting the Values to Intent
        t1.setText(name);
        t2.setText(reg);
        t3.setText(dept);
        Button back = findViewById(R.id.button2);
        back.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent(MainActivity2.this,MainActivity.class);
                startActivity(i);
            }
        });
    }
}
```

Main Activity2.java

```
package com.example.exp4;

import android.content.Intent;
//import android.support.v7.app.AppCompatActivity; import android.os.Bundle;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity2 extends AppCompatActivity {
    TextView t1,t2,t3;
    String name,reg,dept; @Override
    protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        t1= (TextView) findViewById(R.id.textView1);
        t2= (TextView) findViewById(R.id.textView2);
        t3= (TextView) findViewById(R.id.textView3);
//Getting the Intent
        Intent i = getIntent();
//Getting the Values from First Activity using the Intent received
        name=i.getStringExtra("name_key");
        reg=i.getStringExtra("reg_key");
        dept=i.getStringExtra("dept_key");
//Setting the Values to Intent
        t1.setText(name);
```

```
        t2.setText(reg);
        t3.setText(dept);
        Button back = findViewById(R.id.button2);
        back.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i = new Intent(MainActivity2.this,MainActivity.class);
                startActivity(i);
            }
        });
    }
}
```

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, a Simple Android Application that shows names as a list and on selecting a name it should show the details of the candidate on the next screen with a “Back” button. If the screen is rotated to landscape mode (with greater than height), then the screen should show list on left fragment and details on right fragment instead of second screen with back button. Use Fragment transactions and rotation event listener was executed and implemented successfully

Ex. No: 05 **Create an UI listing the diploma engineering branches. If user selects a branch name, display the number of semesters and subjects in each semester. Use**

Date: **content providers and permissions by implementing read**

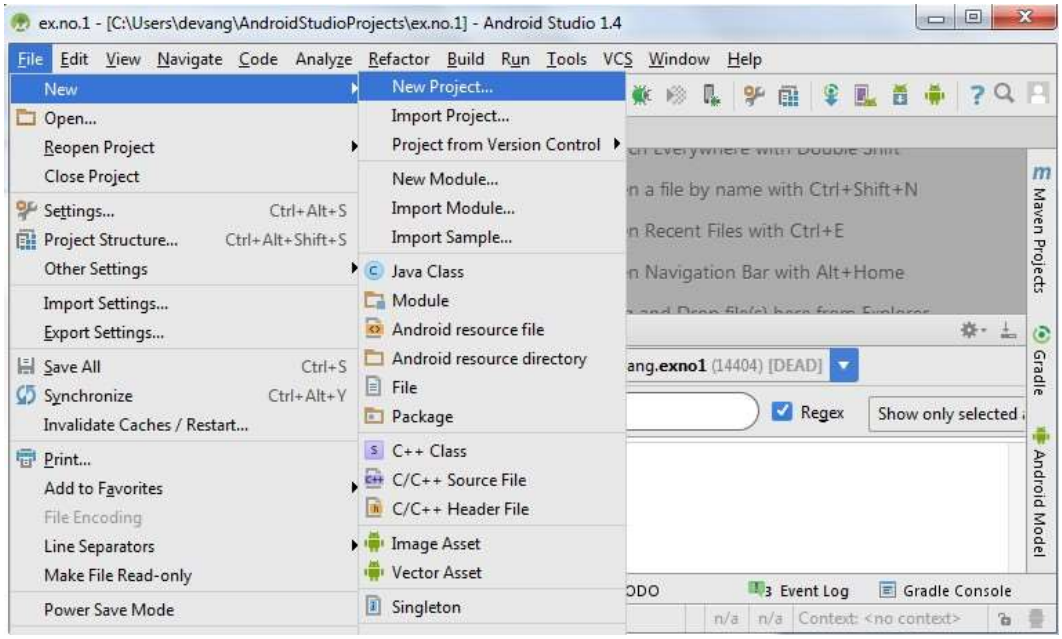
Aim:

To develop a Simple Android Application that Creates an UI listing the diploma engineering branches. If user selects a branch name, display the number of semesters and subjects in each semester. Use content providers and permissions by implementing read

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno1"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then select the **Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Program :

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

    <TextView
        android:layout_width="239dp"
        android:layout_height="75dp"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="86dp"
        android:layout_marginTop="59dp"
        android:layout_marginEnd="86dp"
        android:layout_marginBottom="597dp"
        android:text="@string/welcome"
        android:textAlignment="center"
        android:textSize="30sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
```

```
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="34dp"
    android:layout_alignParentStart="true"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="86dp"
    android:layout_marginTop="220dp"
    android:layout_marginEnd="85dp"
    android:layout_marginBottom="476dp"
    android:text="@string/dept"
    android:textAlignment="center"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Spinner
    android:id="@+id/listalldepts"
    android:layout_width="188dp"
    android:layout_height="59dp"
    android:layout_alignParentStart="true"
    android:layout_alignParentTop="true"
    android:layout_alignParentEnd="true"
    android:layout_alignParentBottom="true"
    android:layout_marginStart="112dp"
    android:layout_marginTop="257dp"
    android:layout_marginEnd="110dp"
```

```
        android:layout_marginBottom="415dp"
        android:minHeight="32dp"
        tools:ignore="SpeakableTextPresentCheck" />

    <Button
        android:id="@+id/showButton"
        android:layout_width="125dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="144dp"
        android:layout_marginTop="375dp"
        android:layout_marginEnd="142dp"
        android:layout_marginBottom="308dp"
        android:text="@string/button" />

</RelativeLayout>
```

MainActivity.java

```
package mr.anonymous.expt5;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
```

```
import android.widget.Spinner;
import android.widget.Toast;


public class MainActivity extends AppCompatActivity {


    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        String[] listitem = getResources().getStringArray(R.array.allDepts);
        Spinner sp = (Spinner) findViewById(R.id.listalldepts);
        final ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_dropdown_item,listitem);
        sp.setAdapter(adapter);
        Button bt = (Button) findViewById(R.id.showButton);
        bt.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String s = sp.getSelectedItem().toString();
                if(!s.equals("")){
               // Toast.makeText(getApplicationContext(),s,Toast.LENGTH_SHORT).show();
                Intent i = new Intent(MainActivity.this,SecondActivity.class);
                i.putExtra("deptSelected",s);
                startActivity(i);}
            }
        });
    }
}
```

file->new->Activity->emptyActivity and name it as SecondActivity

SecondActivity.java

```
package mr.anonymous.expt5;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Adapter;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;

public class SecondActivity extends AppCompatActivity {
    //Toast toastMessage;
    String[] dept;
    String department;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        Intent i = getIntent();
        TextView deptView = (TextView) findViewById(R.id.dept);
        deptView.setText(i.getStringExtra("deptSelected"));
        ListView semList = (ListView) findViewById(R.id.semList);
        department = i.getStringExtra("deptSelected");
        if(department.equals("CSE")){
            dept = getResources().getStringArray(R.array.cse);
```

```
    }
    else if(department.equals("ECE")){
        dept = getResources().getStringArray(R.array.ece);
    }
    else if(department.equals("EEE")){
        dept = getResources().getStringArray(R.array.eee);
    }
    else if(department.equals("MECH")){
        dept = getResources().getStringArray(R.array.mech);
    }
    else if(department.equals("CIVIL")){
        dept = getResources().getStringArray(R.array.civil);
    }
    else if(department.equals("BME")){
        dept = getResources().getStringArray(R.array.bme);
    }
    else {
        dept = getResources().getStringArray(R.array.aindds);
    }


    final ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1,dept);
    semList.setAdapter(adapter);


    semList.setOnItemClickListener(new AdapterView.OnItemClickListener() {
        @Override
        public void onItemClick(AdapterView<?> adapterView, View view, int position, long id) {
            String value = adapter.getItem(position);
            //if(toastMessage!=null){
              //  toastMessage.cancel();
```

```
            //}
            //toastMessage = Toast.makeText(getApplicationContext(),value,Toast.LENGTH_SHORT);
           // toastMessage.show();
            Intent subject = new Intent(SecondActivity.this,viewSubject.class);
            subject.putExtra("sem",value);
            subject.putExtra("dept",department);
            startActivity(subject);
        }
    });
  }
}
```

activity_second.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=".SecondActivity">

  <TextView
    android:id="@+id/dept"
    android:layout_width="109dp"
    android:layout_height="41dp"
    android:text="TextView"
    android:textAlignment="center"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
```

```
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.45"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.043" />

    <ListView
        android:id="@+id/semList"
        android:layout_width="409dp"
        android:layout_height="658dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.972" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

file->new->Activity->emptyActivity and name it as viewSubject

viewSubject.Java

```
package mr.anonymous.expt5;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;
```

```
import java.util.Locale;

public class viewSubject extends AppCompatActivity {
    String subject[];
    String sem,dept;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_view_subject);
        Intent i = getIntent();
        sem = i.getStringExtra("sem");
        dept = i.getStringExtra("dept");
        TextView te = (TextView) findViewById(R.id.textView);
        te.setText(dept+" "+sem);
        if(dept.equals("CSE")){
            if(sem.equals("sem1")){
                subject = getResources().getStringArray(R.array.csesem1);
            }
            else if(sem.equals("sem2")){
                subject = getResources().getStringArray(R.array.csesem2);
            }
            else if(sem.equals("sem3")){
                subject = getResources().getStringArray(R.array.csesem3);
            }
            else if(sem.equals("sem4")){
                subject = getResources().getStringArray(R.array.csesem4);
            }
            else if(sem.equals("sem5")){
```

```
            subject = getResources().getStringArray(R.array.csesem5);
        }
        else {
            subject = getResources().getStringArray(R.array.csesem6);
        }

    }
    else if(dept.equals("ECE")){
        if(sem.equals("sem1")){
            subject = getResources().getStringArray(R.array.ecesem1);
        }
        else if(sem.equals("sem2")){
            subject = getResources().getStringArray(R.array.ecesem2);
        }
        else if(sem.equals("sem3")){
            subject = getResources().getStringArray(R.array.ecesem3);
        }
        else if(sem.equals("sem4")){
            subject = getResources().getStringArray(R.array.ecesem4);
        }
        else if(sem.equals("sem5")){
            subject = getResources().getStringArray(R.array.ecesem5);
        }
        else {
            subject = getResources().getStringArray(R.array.ecesem6);
        }
    }
    else if(dept.equals("EEE")){
        if(sem.equals("sem1")){
            subject = getResources().getStringArray(R.array.eeesem1);
```

```
    }
    else if(sem.equals("sem2")){
        subject = getResources().getStringArray(R.array.eeesem2);
    }
    else if(sem.equals("sem3")){
        subject = getResources().getStringArray(R.array.eeesem3);
    }
    else {
        subject = getResources().getStringArray(R.array.eeesem4);
    }

}
else if(dept.equals("MECH")){
    if(sem.equals("sem1")){
        subject = getResources().getStringArray(R.array.mechsem1);
    }
    else if(sem.equals("sem2")){
        subject = getResources().getStringArray(R.array.mechsem2);
    }
    else if(sem.equals("sem3")){
        subject = getResources().getStringArray(R.array.mechsem3);
    }
    else if(sem.equals("sem4")){
        subject = getResources().getStringArray(R.array.mechsem4);
    }
    else if(sem.equals("sem5")){
        subject = getResources().getStringArray(R.array.mechsem5);
    }
    else {
        subject = getResources().getStringArray(R.array.mechsem6);
```

```
    }
}
else if(dept.equals("CIVIL")){
    if(sem.equals("sem1")){
        subject = getResources().getStringArray(R.array.civilsem1);
    }
    else if(sem.equals("sem2")){
        subject = getResources().getStringArray(R.array.civilsem2);
    }
    else if(sem.equals("sem3")){
        subject = getResources().getStringArray(R.array.civilsem3);
    }
    else if(sem.equals("sem4")){
        subject = getResources().getStringArray(R.array.civilsem4);
    }
    else {
        subject = getResources().getStringArray(R.array.civilsem5);
    }

}
else if(dept.equals("BME")){
    if(sem.equals("sem1")){
        subject = getResources().getStringArray(R.array.bmesem1);
    }
    else if(sem.equals("sem2")){
        subject = getResources().getStringArray(R.array.bmesem2);
    }
    else if(sem.equals("sem3")){
        subject = getResources().getStringArray(R.array.bmesem3);
    }
```

```
    else if(sem.equals("sem4")){
        subject = getResources().getStringArray(R.array.bmesem4);
    }
    else if(sem.equals("sem5")){
        subject = getResources().getStringArray(R.array.bmesem5);
    }
    else if(sem.equals("sem6")){
        subject = getResources().getStringArray(R.array.bmesem6);
    }
    else {
        subject = getResources().getStringArray(R.array.bmesem7);
    }
}
else {
    if(sem.equals("sem1")){
        subject = getResources().getStringArray(R.array.ainddssem1);
    }
    else if(sem.equals("sem2")){
        subject = getResources().getStringArray(R.array.ainddssem2);
    }
    else if(sem.equals("sem3")){
        subject = getResources().getStringArray(R.array.ainddssem3);
    }
    else if(sem.equals("sem4")){
        subject = getResources().getStringArray(R.array.ainddssem4);
    }
    else if(sem.equals("sem5")){
        subject = getResources().getStringArray(R.array.ainddssem5);
    }
    else if(sem.equals("sem6")){
```

```
            subject = getResources().getStringArray(R.array.ainddssem6);
        }
        else if(sem.equals("sem7")){
            subject = getResources().getStringArray(R.array.ainddssem7);
        }
        else {
            subject = getResources().getStringArray(R.array.ainddssem8);
        }
    }
    ListView listSubject = (ListView) findViewById(R.id.listSubject);
    final ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
android.R.layout.simple_list_item_1,subject);
    listSubject.setAdapter(adapter);


  }
}
```

activity_view_subject.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=".viewSubject">

  <ListView
    android:id="@+id/listSubject"
    android:layout_width="411dp"
```

```
        android:layout_height="617dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="1.0" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="152dp"
        android:layout_height="39dp"
        android:text="TextView"
        android:textAlignment="center"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.464"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.06" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Values >>strings.xml

```
<resources>
    <string name="app_name">expt5</string>
    <string name="welcome">Welcome !</string>
    <string name="button">Show</string>
    <string name="dept">Select an department</string>
    <string-array name="allDepts">
        <item />
```

```
    <item>CSE</item>
    <item>ECE</item>
    <item>EEE</item>
    <item>MECH</item>
    <item>CIVIL</item>
    <item>BME</item>
    <item>AI&amp;amp;DS</item>
</string-array>
<string-array name="cse">
    <item>sem1</item>
    <item>sem2</item>
    <item>sem3</item>
    <item>sem4</item>
    <item>sem5</item>
    <item>sem6</item>
</string-array>
<string-array name="ece">
    <item>sem1</item>
    <item>sem2</item>
    <item>sem3</item>
    <item>sem4</item>
    <item>sem5</item>
    <item>sem6</item>
</string-array>
<string-array name="eee">
    <item>sem1</item>
    <item>sem2</item>
    <item>sem3</item>
    <item>sem4</item>
</string-array>
```

```
<string-array name="mech">
    <item>sem1</item>
    <item>sem2</item>
    <item>sem3</item>
    <item>sem4</item>
    <item>sem5</item>
    <item>sem6</item>
</string-array>
<string-array name="civil">
    <item>sem1</item>
    <item>sem2</item>
    <item>sem3</item>
    <item>sem4</item>
    <item>sem5</item>

</string-array>
<string-array name="bme">
    <item>sem1</item>
    <item>sem2</item>
    <item>sem3</item>
    <item>sem4</item>
    <item>sem5</item>
    <item>sem6</item>
    <item>sem7</item>
</string-array>
<string-array name="aindds">
    <item>sem1</item>
    <item>sem2</item>
    <item>sem3</item>
    <item>sem4</item>
```

```
    <item>sem5</item>
    <item>sem6</item>
    <item>sem7</item>
    <item>sem8</item>
</string-array>
<string-array name="ainddssem1">
    <item>Artificial Intelligence - I</item>
    <item>Big Data - I</item>
    <item>Data Structures -I</item>
    <item>Algorithm - I</item>
    <item>Physics - I</item>
</string-array>
<string-array name="ainddssem2">
    <item>Artificial Intelligence - II</item>
    <item>Big Data - II</item>
    <item>Data Structures -II</item>
    <item>Algorithm - II</item>
    <item>Physics - II</item>
</string-array>
<string-array name="ainddssem3">
    <item>Artificial Intelligence - III</item>
    <item>Big Data - III</item>
    <item>Data Structures -III</item>
    <item>Algorithm - III</item>
    <item>Physics - III</item>
</string-array>
<string-array name="ainddssem4">
    <item>Artificial Intelligence - IV</item>
    <item>Big Data - IV</item>
    <item>Data Structures -IV</item>
```

```
    <item>Algorithm - IV</item>
    <item>Physics - IV</item>
</string-array>
<string-array name="ainddssem5">
    <item>Artificial Intelligence - V</item>
    <item>Big Data - V</item>
    <item>Data Structures -V</item>
    <item>Algorithm - V</item>
    <item>Physics - V</item>
</string-array>
<string-array name="ainddssem6">
    <item>Artificial Intelligence - VI</item>
    <item>Big Data - VI</item>
    <item>Data Structures - VI</item>
    <item>Algorithm -  VI</item>
    <item>Physics -  VI</item>
</string-array>
<string-array name="ainddssem7">
    <item>Artificial Intelligence - VII</item>
    <item>Big Data - VII</item>
    <item>Data Structures -VII</item>
    <item>Algorithm - VII</item>
    <item>Physics - VII</item>
</string-array>
<string-array name="ainddssem8">
    <item>Artificial Intelligence - VIII</item>
    <item>Big Data - VIII</item>
    <item>Data Structures -VIII</item>
    <item>Algorithm - VIII</item>
    <item>Physics - VIII</item>
```

```
</string-array>
<string-array name="bmesem1">
    <item>Medical - I</item>
    <item>Bio Medical - I</item>
    <item>Biology - I</item>
    <item>Physics - I</item>
    <item>Chemistry - I</item>

</string-array>
<string-array name="bmesem2">
    <item>Medical - II</item>
    <item>Bio Medical - II</item>
    <item>Biology - II</item>
    <item>Physics - II</item>
    <item>Chemistry - II</item>

</string-array>
<string-array name="bmesem3">
    <item>Medical - III</item>
    <item>Bio Medical - III</item>
    <item>Biology - III</item>
    <item>Physics - III</item>
    <item>Chemistry - III</item>

</string-array>
<string-array name="bmesem4">
    <item>Medical - IV</item>
    <item>Bio Medical - IV</item>
    <item>Biology - IV</item>
    <item>Physics - IV</item>
```

```
    <item>Chemistry - IV</item>

</string-array>
<string-array name="bmesem5">
    <item>Medical - V</item>
    <item>Bio MEdical - V</item>
    <item>Biology - V</item>
    <item>Physics - V</item>
    <item>Chemistry - V</item>

</string-array>
<string-array name="bmesem6">
    <item>Medical - VI</item>
    <item>Bio MEdical - VI</item>
    <item>Biology - VI</item>
    <item>Physics - VI</item>
    <item>Chemistry - VI</item>

</string-array>
<string-array name="bmesem7">
    <item>Medical - VII</item>
    <item>Bio MEdical - VII</item>
    <item>Biology - VII</item>
    <item>Physics - VII</item>
    <item>Chemistry - VII</item>

</string-array>
<string-array name="civilsem1">
    <item>Autocad - I</item>
    <item>engineering Graphics - I</item>
```

```
    <item>Chemistry - I</item>
    <item>Physics - I</item>
    <item>Mths _ I</item>

</string-array>

<string-array name="civilsem2">
    <item>Autocad - II</item>
    <item>engineering Graphics - II</item>
    <item>Chemistry - II</item>
    <item>Physics - II</item>
    <item>Mths _ II</item>

</string-array>
<string-array name="civilsem3">
    <item>Autocad - III</item>
    <item>engineering Graphics - III</item>
    <item>Chemistry - III</item>
    <item>Physics - III</item>
    <item>Mths _ III</item>

</string-array>
<string-array name="civilsem4">
    <item>Autocad - IV</item>
    <item>engineering Graphics - IV</item>
    <item>Chemistry - IV</item>
    <item>Physics - IV</item>
    <item>Mths _ IV</item>
</string-array>
<string-array name="civilsem5">
```

```
    <item>Autocad - V</item>
    <item>engineering Graphics - V</item>
    <item>Chemistry - V</item>
    <item>Physics - V</item>
    <item>Mths _ V</item>

</string-array>
<string-array name="csesem1">
    <item>Calculus</item>
    <item>Chemistry 1</item>
    <item>Introduction to Computer Programming</item>
    <item>Phhysics</item>
    <item>Chemistry Lab</item>
    <item>workshop Practice</item>
</string-array>
<string-array name="csesem2">
    <item>Linear Algebra and differential Equations</item>
    <item>Modern Physics</item>
    <item>Data nAnalytics</item>
    <item>Programming Paradigms</item>
    <item>Physics Lab</item>
    <item>Engineering Graphics</item>
</string-array>
<string-array name="csesem3">
    <item>Numberical Analysis</item>
    <item>Electroncs Circuit</item>
    <item>Discrete Structures</item>
    <item>Data Structure and Algorithm</item>
    <item>Measurement Lab</item>
    <item>Data Structure and Algorithm Lab</item>
```

```
</string-array>
<string-array name="csesem4">
    <item>Environmental Studies</item>
    <item>Automata Theorey</item>
    <item>Design analysis of Algorithms</item>
    <item>Logic Design</item>
    <item>Software System Lab</item>
    <item>Logic Design Lab</item>
</string-array>
<string-array name="csesem5">
    <item>Physology</item>
    <item>Computer Architecture</item>
    <item>Operating Systems</item>
    <item>Database</item>
    <item>Database Lab</item>
    <item>Computer Architecture Lab</item>
    <item>Operating Systems Lab</item>
</string-array>
<string-array name="csesem6">
    <item>Artificial Intelligence</item>
    <item>Implementation of Programming Languages</item>
    <item>Computer Networks</item>
    <item>Artificial Intelligence Lab</item>
    <item>Implementation of Programming Languages Lab</item>
    <item>computer Networks Lab</item>
</string-array>
<string-array name="ecesem1">
    <item>Applied Mathematics - I</item>
    <item>Applied Physics - I</item>
    <item>Applied Chemistry - I</item>
```

```
    <item>Engineering Mechanics</item>
    <item>Electrical Sciene</item>
    <item>Communication Skill - I</item>
</string-array>
<string-array name="ecesem2">
    <item>Analog Electronics</item>
    <item>Circuits &amp;amp; Systems</item>
    <item>Electrical Engineering Materials</item>
    <item>Electro Mechanical Energy Conservation</item>
    <item>Data Structures</item>
</string-array>
<string-array name="ecesem3">
    <item>Analog Electronics</item>
    <item>Power Station Practice</item>
    <item>Power Systems</item>
    <item>Cntrol Engineering</item>
    <item>Control Engineering</item>
</string-array>
<string-array name="ecesem4">
    <item>Environmental Studies</item>
    <item>Automata Theorey</item>
    <item>Design analysis of Algorithms</item>
    <item>Logic Design</item>
    <item>Software System Lab</item>
    <item>Logic Design Lab</item>
</string-array>
<string-array name="ecesem5">
    <item>Physology</item>
    <item>Computer Architecture</item>
    <item>Operating Systems</item>
```

```
    <item>Database</item>
    <item>Database Lab</item>
    <item>Computer Architecture Lab</item>
    <item>Operating Systems Lab</item>
</string-array>
<string-array name="ecesem6">
    <item>Applied Mathematics - II</item>
    <item>Applied Physics - II</item>
    <item>Applied Chemistry - II</item>
    <item>Engineering Mechanics</item>
    <item>Electrical Sciene</item>
    <item>Communication Skill - II</item>
</string-array>
<string-array name="eeesem1">
    <item>Applied Mathematics - I</item>
    <item>Applied Physics - I</item>
    <item>Applied Chemistry - I</item>
    <item>Manufacturing Process</item>
    <item>Autocad</item>
    <item>Communication Skill - I</item>
</string-array>
<string-array name="eeesem2">
    <item>Applied Mathematics - II</item>
    <item>Applied Physics - II</item>
    <item>Applied Chemistry - II</item>
    <item>Engineering Mechanics</item>
    <item>Electrical Sciene</item>
    <item>Communication Skill - II</item>
</string-array>
<string-array name="eeesem3">
```

```
    <item>Analog Electronics</item>
    <item>Circuits &amp;amp; Systems</item>
    <item>Electrical Engineering Materials</item>
    <item>Electro Mechanical Energy Conservation</item>
    <item>Data Structures</item>

</string-array>
<string-array name="eeesem4">
    <item>Analog Electronics</item>
    <item>Power Station Practice</item>
    <item>Power Systems</item>
    <item>Cntrol Engineering</item>
    <item>Control Engineering</item>

</string-array>
<string-array name="mechsem1">
    <item>Machie - I</item>
    <item>House Mechanics - I</item>
    <item>Industry Machine - I</item>
    <item>Vehicles - I</item>
    <item>Robotics - I</item>
</string-array>
<string-array name="mechsem2">
    <item>Machie - II</item>
    <item>House Mechanics - II</item>
    <item>Industry Machine - II</item>
    <item>Vehicles - II</item>
    <item>Robotics - II</item>
</string-array>
<string-array name="mechsem3">
```

```
        <item>Machie - III</item>
        <item>House Mechanics - III</item>
        <item>Industry Machine - III</item>
        <item>Vehicles - III</item>
        <item>Robotics - III</item>
    </string-array>
    <string-array name="mechsem4">
        <item>Machie - IV</item>
        <item>House Mechanics - IV</item>
        <item>Industry Machine - IV</item>
        <item>Vehicles - IV</item>
        <item>Robotics - IV</item>
    </string-array>
    <string-array name="mechsem5">
        <item>Machie - V</item>
        <item>House Mechanics - V</item>
        <item>Industry Machine - V</item>
        <item>Vehicles - V</item>
        <item>Robotics - V</item>
    </string-array>
    <string-array name="mechsem6">
        <item>Machie - VI</item>
        <item>House Mechanics - VI</item>
        <item>Industry Machine - VI</item>
        <item>Vehicles - VI</item>
        <item>Robotics - VI</item>
    </string-array>
</resources>
```

Output:

DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, a Simple Android Application that Creates an UI listing the diploma engineering branches. If user selects a branch name, display the number of semesters and subjects in each semester. Use content providers and permissions by implementing read was executed and implemented successfully.

Ex. No: 06 **Use content providers and permissions by implementing read phonebook contacts with content providers and display in the list.**

Date:

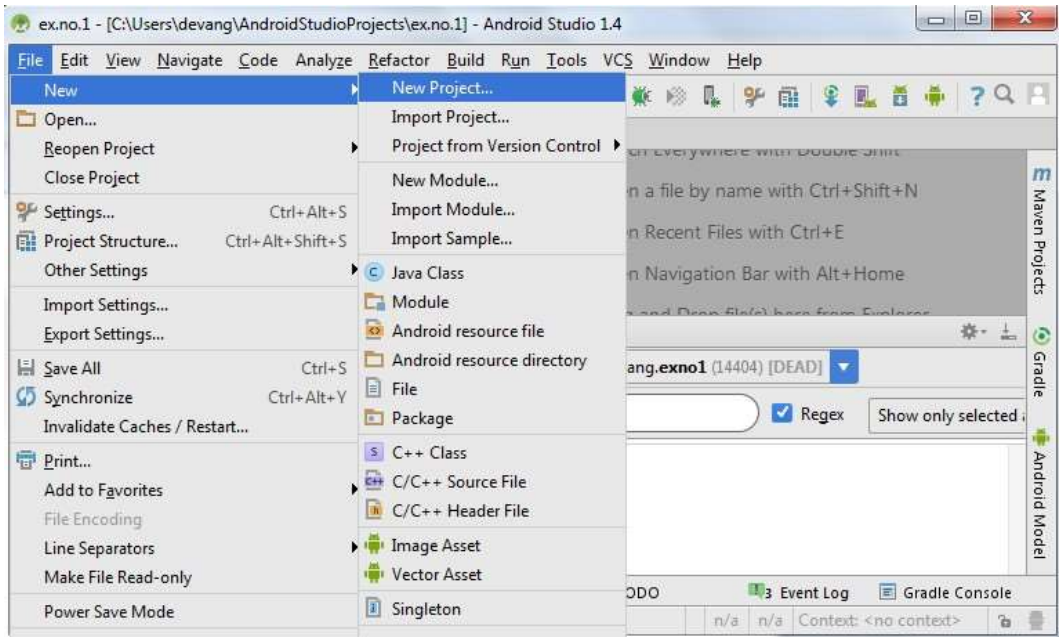
Aim:

To develop a Simple Android Application that Uses content providers and permissions by implementing read phonebook contacts with content providers and display in the list.

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno1"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then select the **Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Program:

MainActivity.java

```
package dev.udhayakumar.exp8;

import android.Manifest;
import android.annotation.SuppressLint;
import android.content.pm.PackageManager;
import android.database.Cursor;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    ListView listView ;
    ArrayList<String> StoreContacts ;
    ArrayAdapter<String> arrayAdapter ;
    Cursor cursor ;
    String name, phonenumber ;
    public  static final int RequestPermissionCode  = 1 ;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        listView = (ListView)findViewById(R.id.listview1);

        button = (Button)findViewById(R.id.button1);

        StoreContacts = new ArrayList<String>();

        EnableRuntimePermission();

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

                GetContactsIntoArrayList();
```

```
            arrayAdapter = new ArrayAdapter<String>(
                    MainActivity.this,
                    R.layout.contact_items_listview,
                    R.id.textView, StoreContacts
            );

            listView.setAdapter(arrayAdapter);


        }
    });

}

@SuppressLint("Range")
public void GetContactsIntoArrayList(){

    cursor =
getContentResolver().query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI, null,null,
null, null);

    while (cursor.moveToNext()) {

        name =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME
));

        phonenumber =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));

        StoreContacts.add(name + " "  + ":" + " " + phonenumber);
    }

    cursor.close();

}

public void EnableRuntimePermission(){

    if (ActivityCompat.shouldShowRequestPermissionRationale(
            MainActivity.this,
            Manifest.permission.READ_CONTACTS))
    {

        Toast.makeText(MainActivity.this,"CONTACTS permission allows us to Access CONTACTS
app", Toast.LENGTH_LONG).show();

    } else {

        ActivityCompat.requestPermissions(MainActivity.this,new String[]{
```

```
                Manifest.permission.READ_CONTACTS}, RequestPermissionCode);

        }
    }

    @Override
    public void onRequestPermissionsResult(int RC, String per[], int[] PResult) {

        super.onRequestPermissionsResult(RC, per, PResult);
        switch (RC) {

            case RequestPermissionCode:

                if (PResult.length > 0 && PResult[0] == PackageManager.PERMISSION_GRANTED) {

                    Toast.makeText(MainActivity.this, "Permission Granted, Now your application can access
CONTACTS.", Toast.LENGTH_LONG).show();

                } else {

                    Toast.makeText(MainActivity.this, "Permission Canceled, Now your application cannot
access CONTACTS.", Toast.LENGTH_LONG).show();

                }
                break;
        }
    }


}
```

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="dev.udhayakumar.exp5.MainActivity"
    android:background="#FFF"
    android:padding="4dp">

    <ListView
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:layout_centerHorizontal="true"
        android:id="@+id/listview1"
        android:layout_below="@+id/button1" />
```

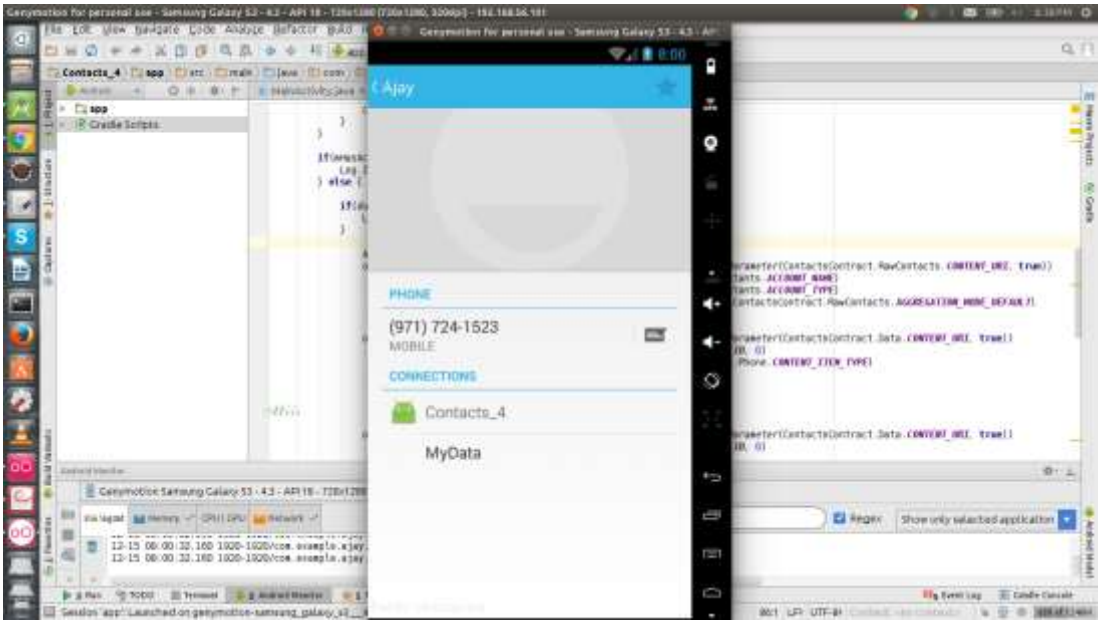
```
   <Button
      android:layout_width="fill_parent"
      android:layout_height="wrap_content"
      android:id="@+id/button1"
      android:text="Click Here to load Contacts" />

</RelativeLayout>
```

Layout -> Right click -> new -> layout resource -> file name -> mylist.xml

contact_items_listview.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent" android:layout_height="match_parent">
   <TextView
      android:text="Name : "
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentTop="true"
      android:layout_alignParentLeft="true"
      android:layout_alignParentStart="true"
      android:id="@+id/textView"
      android:textSize="20dp"
      android:textColor="#000000"
      android:gravity="center"/>
</RelativeLayout>
```

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, a Simple Android Application that Uses content providers and permissions by implementing read phonebook contacts with content providers and display in the list was executed and implemented successfully.

Ex. No: 07 **Create an application that will have spinner with list of animation names. on selecting animation name, that animation should affect on the images displayed below.**

Date:

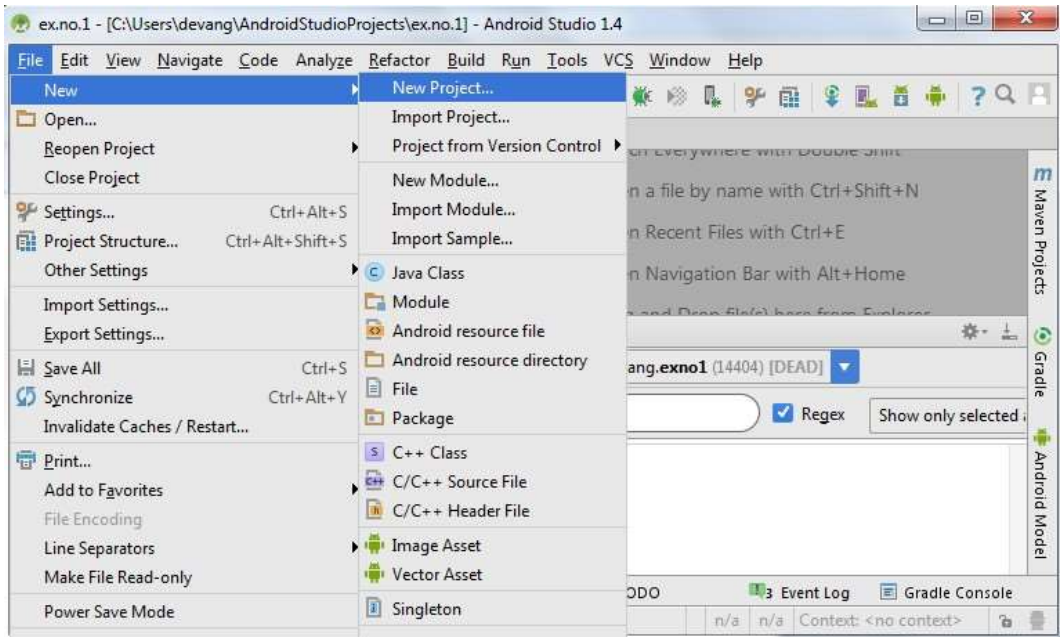
Aim:

To develop an Android Application that Create an application that will have spinner with list of animation names. on selecting animation name, that animation should affect on the images displayed below.

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno7"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then **select the Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Program:

```
package ps.pro10;

import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemSelectedListener;
import android.widget.ImageView;
import android.widget.Spinner;

public class Pro10Activity extends Activity implements OnItemSelectedListener {
    /**
     *  www.master-gtu.blogspot.com
     *  pankaj sharma(8460479175),
     *  chavda vijay(8460420769)
     */
 Spinner spin;
 ImageView imgmaster;

    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
        spin=(Spinner) findViewById(R.id.spinnereffect);
        imgmaster=(ImageView) findViewById(R.id.imageViewmaster);

        spin.setOnItemSelectedListener(this);
    }

 @Override
 public void onItemSelected(AdapterView arg0, View arg1, int arg2,
   long arg3) {
  // TODO Auto-generated method stub
  Animation anim=AnimationUtils.loadAnimation(this, R.anim.alpha);
  if(spin.getSelectedItem().equals("alpha"))
   anim=AnimationUtils.loadAnimation(this, R.anim.alpha);
  else if(spin.getSelectedItem().equals("Rotate"))
   anim=AnimationUtils.loadAnimation(this, R.anim.rotate);
  else if(spin.getSelectedItem().equals("Scale"))
   anim=AnimationUtils.loadAnimation(this, R.anim.scale);
  else if(spin.getSelectedItem().equals("Translate"))
   anim=AnimationUtils.loadAnimation(this, R.anim.translate);

  imgmaster.startAnimation(anim);
 }
```

```
  @Override
  public void onNothingSelected(AdapterView arg0) {
   // TODO Auto-generated method stub

  }
 }
```

Output:

DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, Android Application that Create an application that will have spinner with list of animation names. on selecting animation name, that animation should affect on the images displayed below is developed and executed successfully.

Ex. No: 08 **Write an android program to demonstrate a Menu with name File with New and Open as menu items. Give toast messages on click of each menu item.**

Date:

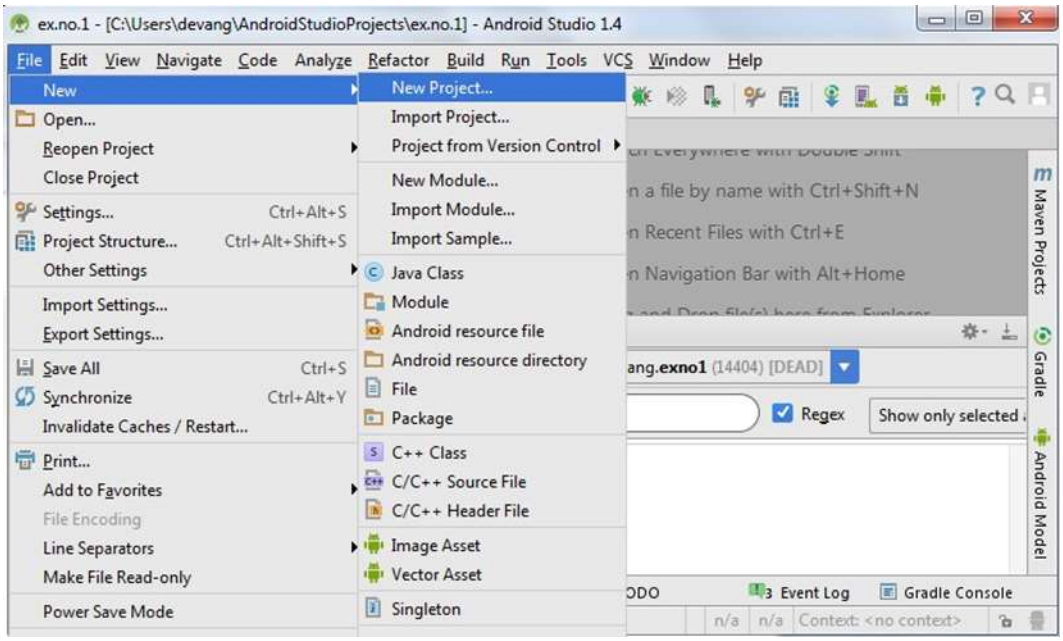
Aim:

To develop an Android Application that demonstrates a Menu with name File with New and Open as menu items. Give toast messages on click of each menu item**.**

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno7"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then **select the Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Program:

MainActivity.java

```
package dev.udhayakumar.exp8;

import android.Manifest;
import android.annotation.SuppressLint;
import android.content.pm.PackageManager;
import android.database.Cursor;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    ListView listView ;
    ArrayList<String> StoreContacts ;
    ArrayAdapter<String> arrayAdapter ;
    Cursor cursor ;
    String name, phonenumber ;
    public  static final int RequestPermissionCode  = 1 ;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        listView = (ListView)findViewById(R.id.listview1);

        button = (Button)findViewById(R.id.button1);

        StoreContacts = new ArrayList<String>();

        EnableRuntimePermission();

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

```
            GetContactsIntoArrayList();

            arrayAdapter = new ArrayAdapter<String>(
                    MainActivity.this,
                    R.layout.contact_items_listview,
                    R.id.textView, StoreContacts
            );

            listView.setAdapter(arrayAdapter);


        }
    });

}

@SuppressLint("Range")
public void GetContactsIntoArrayList(){

    cursor =
getContentResolver().query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI, null,null,
null, null);

    while (cursor.moveToNext()) {

        name =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME
));

        phonenumber =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));

        StoreContacts.add(name + " "  + ":" + " " + phonenumber);
    }

    cursor.close();

}

public void EnableRuntimePermission(){

    if (ActivityCompat.shouldShowRequestPermissionRationale(
            MainActivity.this,
            Manifest.permission.READ_CONTACTS))
    {

        Toast.makeText(MainActivity.this,"CONTACTS permission allows us to Access CONTACTS
app", Toast.LENGTH_LONG).show();

    } else {
```

```
        ActivityCompat.requestPermissions(MainActivity.this,new String[]{
                Manifest.permission.READ_CONTACTS}, RequestPermissionCode);

        }
    }

    @Override
    public void onRequestPermissionsResult(int RC, String per[], int[] PResult) {

        super.onRequestPermissionsResult(RC, per, PResult);
        switch (RC) {

            case RequestPermissionCode:

                if (PResult.length > 0 && PResult[0] == PackageManager.PERMISSION_GRANTED) {

                    Toast.makeText(MainActivity.this, "Permission Granted, Now your application can access
CONTACTS.", Toast.LENGTH_LONG).show();

                } else {

                    Toast.makeText(MainActivity.this, "Permission Canceled, Now your application cannot
access CONTACTS.", Toast.LENGTH_LONG).show();

                }
                break;
        }
    }


}
```

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="dev.udhayakumar.exp5.MainActivity"
    android:background="#FFF"
    android:padding="4dp">

    <ListView
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:layout_centerHorizontal="true"
        android:id="@+id/listview1"
        android:layout_below="@+id/button1" />
```

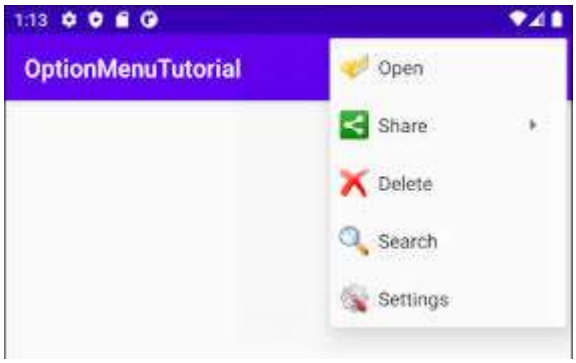
```
   <Button
      android:layout_width="fill_parent"
      android:layout_height="wrap_content"
      android:id="@+id/button1"
      android:text="Click Here to load Contacts" />

</RelativeLayout>
```

Layout -> Right click -> new -> layout resource -> file name -> mylist.xml

contact_items_listview.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent" android:layout_height="match_parent">
   <TextView
      android:text="Name : "
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentTop="true"
      android:layout_alignParentLeft="true"
      android:layout_alignParentStart="true"
      android:id="@+id/textView"
      android:textSize="20dp"
      android:textColor="#000000"
      android:gravity="center"/>
</RelativeLayout>
```

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, Android Application that demonstrates a Menu with name File with New and Open as menu items. Give toast messages on click of each menu item is developed and executed successfully.

Ex. No: 09 **Write an android program to switch from one activity to another using Intent. When the activity is changed disable the use of back button to avoid going to previous activity.**

Date:

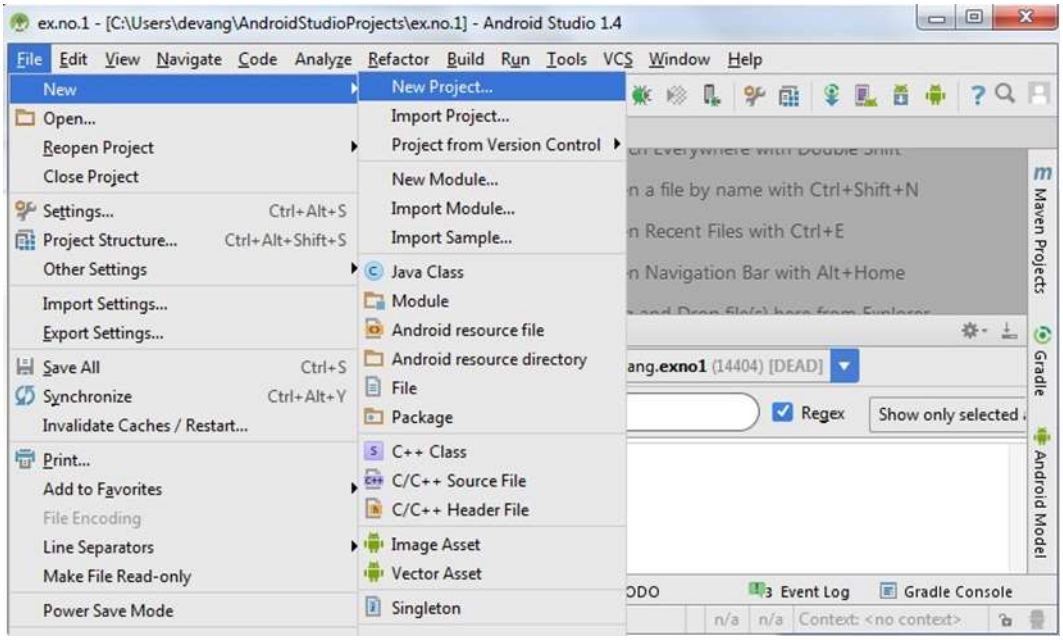
Aim:

To develop an Android Application to switch from one activity to another using Intent. When the activity is changed disable the use of back button to avoid going to previous activity

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno7"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then **select the Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Program:

MainActivity.java

```
package dev.udhayakumar.exp9;

import android.Manifest;
import android.annotation.SuppressLint;
import android.content.pm.PackageManager;
import android.database.Cursor;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    ListView listView ;
    ArrayList<String> StoreContacts ;
    ArrayAdapter<String> arrayAdapter ;
    Cursor cursor ;
    String name, phonenumber ;
    public  static final int RequestPermissionCode  = 1 ;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        listView = (ListView)findViewById(R.id.listview1);

        button = (Button)findViewById(R.id.button1);

        StoreContacts = new ArrayList<String>();

        EnableRuntimePermission();

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

                GetContactsIntoArrayList();
```

```
            arrayAdapter = new ArrayAdapter<String>(
                    MainActivity.this,
                    R.layout.contact_items_listview,
                    R.id.textView, StoreContacts
            );

            listView.setAdapter(arrayAdapter);


        }
    });

}

@SuppressLint("Range")
public void GetContactsIntoArrayList(){

    cursor =
getContentResolver().query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI, null,null,
null, null);

    while (cursor.moveToNext()) {

        name =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME
));

        phonenumber =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));

        StoreContacts.add(name + " "  + ":" + " " + phonenumber);
    }

    cursor.close();

}

public void EnableRuntimePermission(){

    if (ActivityCompat.shouldShowRequestPermissionRationale(
            MainActivity.this,
            Manifest.permission.READ_CONTACTS))
    {

        Toast.makeText(MainActivity.this,"CONTACTS permission allows us to Access CONTACTS
app", Toast.LENGTH_LONG).show();

    } else {

        ActivityCompat.requestPermissions(MainActivity.this,new String[]{
```

```
                Manifest.permission.READ_CONTACTS}, RequestPermissionCode);

        }
    }

    @Override
    public void onRequestPermissionsResult(int RC, String per[], int[] PResult) {

        super.onRequestPermissionsResult(RC, per, PResult);
        switch (RC) {

            case RequestPermissionCode:

                if (PResult.length > 0 && PResult[0] == PackageManager.PERMISSION_GRANTED) {

                    Toast.makeText(MainActivity.this, "Permission Granted, Now your application can access
CONTACTS.", Toast.LENGTH_LONG).show();

                } else {

                    Toast.makeText(MainActivity.this, "Permission Canceled, Now your application cannot
access CONTACTS.", Toast.LENGTH_LONG).show();

                }
                break;
        }
    }


}
```

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="dev.udhayakumar.exp5.MainActivity"
    android:background="#FFF"
    android:padding="4dp">

    <ListView
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:layout_centerHorizontal="true"
        android:id="@+id/listview1"
        android:layout_below="@+id/button1" />
```

```
   <Button
      android:layout_width="fill_parent"
      android:layout_height="wrap_content"
      android:id="@+id/button1"
      android:text="Click Here to load Contacts" />

</RelativeLayout>
```

Layout -> Right click -> new -> layout resource -> file name -> mylist.xml

contact_items_listview.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent" android:layout_height="match_parent">
   <TextView
      android:text="Name : "
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_alignParentTop="true"
      android:layout_alignParentLeft="true"
      android:layout_alignParentStart="true"
      android:id="@+id/textView"
      android:textSize="20dp"
      android:textColor="#000000"
      android:gravity="center"/>
</RelativeLayout>
```

Output:

DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, Android Application to switch from one activity to another using Intent. When the activity is changed disable the use of back button to avoid going to previous activity is developed and executed successfully.

Ex. No: 10 **Develop a native calculator application to incorporate the linear layout with two input and one output text box. The input text box accepts only integer and**

Date: **floating-point values and the result is printed on the output text box.**

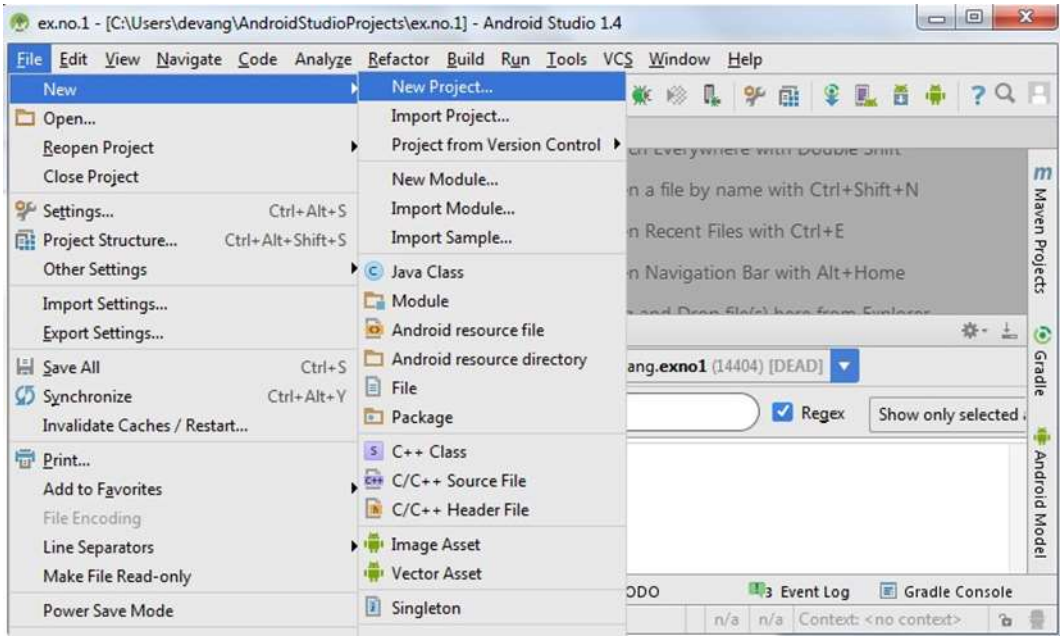
Aim:

To develop an Android Application that uses native calculator application to incorporate the linear layout with two input and one output text box. The input text box accepts only integer and floating-point values and the result is printed on the output text box

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno7"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then **select the Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Program:

MainActivity.java

```
package dev.udhayakumar.exp10;

import android.Manifest;
import android.annotation.SuppressLint;
import android.content.pm.PackageManager;
import android.database.Cursor;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    ListView listView ;
    ArrayList<String> StoreContacts ;
    ArrayAdapter<String> arrayAdapter ;
    Cursor cursor ;
    String name, phonenumber ;
    public  static final int RequestPermissionCode  = 1 ;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        listView = (ListView)findViewById(R.id.listview1);

        button = (Button)findViewById(R.id.button1);

        StoreContacts = new ArrayList<String>();

        EnableRuntimePermission();

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

```
            GetContactsIntoArrayList();

            arrayAdapter = new ArrayAdapter<String>(
                    MainActivity.this,
                    R.layout.contact_items_listview,
                    R.id.textView, StoreContacts
            );

            listView.setAdapter(arrayAdapter);


        }
    });

}

@SuppressLint("Range")
public void GetContactsIntoArrayList(){

    cursor =
getContentResolver().query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI, null,null,
null, null);

    while (cursor.moveToNext()) {

        name =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME
));

        phonenumber =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));

        StoreContacts.add(name + " "  + ":" + " " + phonenumber);
    }

    cursor.close();

}

public void EnableRuntimePermission(){

    if (ActivityCompat.shouldShowRequestPermissionRationale(
            MainActivity.this,
            Manifest.permission.READ_CONTACTS))
    {

        Toast.makeText(MainActivity.this,"CONTACTS permission allows us to Access CONTACTS
app", Toast.LENGTH_LONG).show();

    } else {
```

```
        ActivityCompat.requestPermissions(MainActivity.this,new String[]{
                Manifest.permission.READ_CONTACTS}, RequestPermissionCode);

        }
    }

    @Override
    public void onRequestPermissionsResult(int RC, String per[], int[] PResult) {

        super.onRequestPermissionsResult(RC, per, PResult);
        switch (RC) {

            case RequestPermissionCode:

                if (PResult.length > 0 && PResult[0] == PackageManager.PERMISSION_GRANTED) {

                    Toast.makeText(MainActivity.this, "Permission Granted, Now your application can access
CONTACTS.", Toast.LENGTH_LONG).show();

                } else {

                    Toast.makeText(MainActivity.this, "Permission Canceled, Now your application cannot
access CONTACTS.", Toast.LENGTH_LONG).show();

                }
                break;
        }
    }


}
```

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="dev.udhayakumar.exp5.MainActivity"
    android:background="#FFF"
    android:padding="4dp">

    <ListView
        android:layout_width="fill_parent"
        android:layout_height="fill_parent"
        android:layout_centerHorizontal="true"
        android:id="@+id/listview1"
        android:layout_below="@+id/button1" />
```

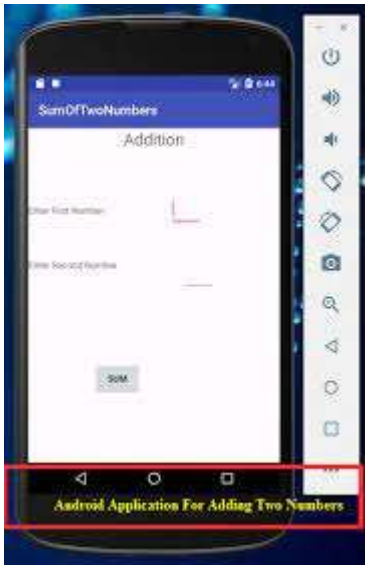
```
    <Button
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/button1"
        android:text="Click Here to load Contacts" />

</RelativeLayout>
```

Layout -> Right click -> new -> layout resource -> file name -> mylist.xml

contact_items_listview.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent" android:layout_height="match_parent">
    <TextView
        android:text="Name : "
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:id="@+id/textView"
        android:textSize="20dp"
        android:textColor="#000000"
        android:gravity="center"/>
</RelativeLayout>
```

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, Android Application that uses native calculator application to incorporate the linear layout with two input and one output text box. The input text box accepts only integer and floating-point values and the result is printed on the output text box is developed and executed successfully.

Ex. No: 11 **Develop an application that shows the current location's latitude and longitude continuously as the device is moving (tracking). Also the**
Date: **application that shows the current location on Google maps**

Aim:

To develop an Android Application that shows the current location's latitude and longitude continuously as the device is moving (tracking). Also the application that shows the current location on Google mapsuses GPS location information.

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.
- Then type the Application name as **"exno7"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then **select the Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Code for 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" >

<Button
    android:id = "@+id/button"
    android:layout_width = "fill_parent"
    android:layout_height = "wrap_content"
    android:text = "getlocation"/>

</LinearLayout>
```

- Now click on Design and your application will look as given below.
- So now the designing part is completed.

Following will be the content of res/values/strings.xml to define two new constants −

```
<?xml version = "1.0" encoding = "utf-8"?>
<resources>
<string name = "app_name">Tutorialspoint</string>
</resources>
```

Adding permissions in Manifest for the Android Application:

- Click on **app -> manifests -> AndroidManifest.xml.**

Code for AndroidManifest.xml:

```
<?xml version = "1.0" encoding = "utf-8"?>
<manifest xmlns:android =
  "http://schemas.android.com/apk/res/android"package =
  "com.example.tutorialspoint7.myapplication">
<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION" />
<uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />
<uses-permission android:name = "android.permission.INTERNET" />
<application android:allowBackup = "true"
    android:icon = "@mipmap/ic_launcher"
    android:label = "@string/app_name"
    android:supportsRtl = "true"
    android:theme = "@style/AppTheme">

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

</manifest>
```

Java Coding for the Android Application:

- Click on **app -> java -> com.example.exno7 -> MainActivity**.
- Then delete the code which is there and type the code as given below.

Code for MainActivity.java:

```
packagecom.example.exno7;

import android.Manifest;
 import android.app.Activity;
import android.os.Bundle;
import android.support.v4.app.ActivityCompat;
import android.test.mock.MockPackageManager;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends Activity {


  Button btnShowLocation;
 private static final int REQUEST_CODE_PERMISSION = 2;
 String mPermission = Manifest.permission.ACCESS_FINE_LOCATION;

 // GPSTracker classGPSTracker gps;

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

  try {
   if (ActivityCompat.checkSelfPermission(this, mPermission)
    != MockPackageManager.PERMISSION_GRANTED) {

    ActivityCompat.requestPermissions(this, new String[]{mPermission},
     REQUEST_CODE_PERMISSION);

    // If any permission above not allowed by user, this condition will
     execute every time, else your else part will work
   }
  } catch (Exception
   e) {
   e.printStackTrace(
   );
  }

  btnShowLocation = (Button) findViewById(R.id.button);
```

```
    // show location button click event
    btnShowLocation.setOnClickListener(new View.OnClickListener() {

      @Override
      public void onClick(View arg0) {
        // create class object
        gps = new GPSTracker(MainActivity.this);

        // check if GPS enabled
        if(gps.canGetLocation()){

          double latitude = gps.getLatitude();
          double longitude =
          gps.getLongitude();

          // \n is for new line
          Toast.makeText(getApplicationContext(), "Your Location is - \nLat: "
            + latitude + "\nLong: " + longitude, Toast.LENGTH_LONG).show();
        }else{
          // can't get location
          // GPS or Network is not enabled
          // Ask user to enable GPS/network in settings
          gps.showSettingsAlert();
        }

      }
    });
  }
}
```

- Following is the content of the modified main activity file **GPSTracker.java**.

Code for GPDTracker.Java

```
packagecom.example.exno7;
import android.app.AlertDialog;
import android.app.Service;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.location.Location;
import android.location.LocationListener;
import android.location.LocationManager;
import android.os.Bundle;
import   android.os.IBinder;
import android.provider.Settings;
```

```
import android.util.Log;
public class GPSTracker extends Service implements LocationListener{

  private final Context mContext;

  // flag for GPS status
  boolean isGPSEnabled = false;

  // flag for network status
  boolean isNetworkEnabled = false;

  // flag for GPS status
  boolean canGetLocation = false;

  Location location; //
  location double latitude; //
  latitude double longitude; //
  longitude

  // The minimum distance to change Updates in meters
  private static final long MIN_DISTANCE_CHANGE_FOR_UPDATES = 10; // 10 meters

  // The minimum time between updates in milliseconds
  private static final long MIN_TIME_BW_UPDATES = 1000 * 60 * 1; // 1 minute

  // Declaring a Location Manager
  protected LocationManager locationManager;

  public GPSTracker(Context
    context) {this.mContext = context;
    getLocation();
  }

  public Location
    getLocation() {try {
      locationManager = (LocationManager) mContext.getSystemService(LOCATION_SERVICE);

      // getting GPS status
      isGPSEnabled = locationManager.isProviderEnabled(LocationManager.GPS_PROVIDER);

      // getting network status
      isNetworkEnabled = locationManager
        .isProviderEnabled(LocationManager.NETWORK_PROVIDER);
```

```
if (!isGPSEnabled && !isNetworkEnabled) {
  // no network provider is enabled
} else {
  this.canGetLocation = true;
  // First get location from Network
  Providerif (isNetworkEnabled) {
    locationManager.requestLocationUpdates(
      LocationManager.NETWORK_PROVIDER,
      MIN_TIME_BW_UPDATES,
      MIN_DISTANCE_CHANGE_FOR_UPDATES, this);

    Log.d("Network",
    "Network");if
    (locationManager != null) {
      location = locationManager
        .getLastKnownLocation(LocationManager.NETWORK_PROVIDER);

      if (location != null) {
        latitude = location.getLatitude();
        longitude =
        location.getLongitude();
      }
    }
  }

  // if GPS Enabled get lat/long using GPS
  Servicesif (isGPSEnabled) {
    if (location == null) {
      locationManager.requestLocationUpdates(
        LocationManager.GPS_PROVIDER,
        MIN_TIME_BW_UPDATES,
        MIN_DISTANCE_CHANGE_FOR_UPDATES,
        this);

      Log.d("GPS Enabled", "GPS
      Enabled");if (locationManager !=
      null) {
        location = locationManager
          .getLastKnownLocation(LocationManager.GPS_PROVIDER);

        if (location != null) {
          latitude = location.getLatitude();
          longitude = location.getLongitude();
        }
      }
```

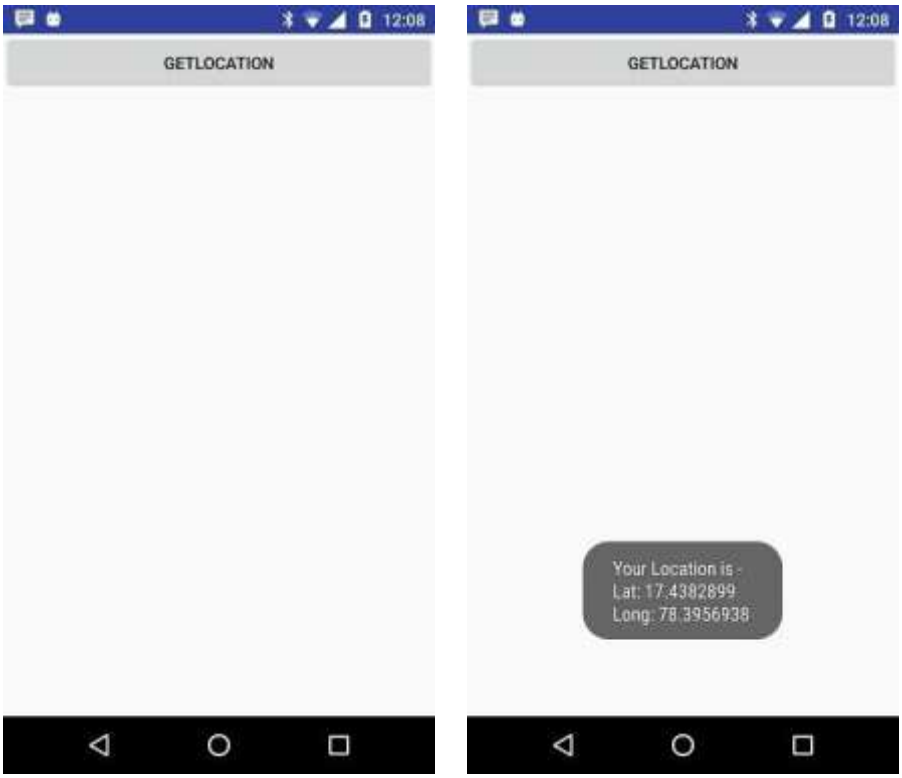
```
        }
      }
    }

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

  return location;
}

/**
  * Stop using GPS listener
  * Calling this function will stop using GPS in your app
* */

public void
  stopUsingGPS(){
  if(locationManager !=
  null){
    locationManager.removeUpdates(GPSTracker.this);
  }
}

/**
  * Function to get latitude
* */

public double
  getLatitude(){if(location
  != null){
    latitude = location.getLatitude();
  }

  // return
  latitudereturn
  latitude;
}

/**
  * Function to get longitude
* */

public double
```

```
  getLongitude(){if(location
  != null){
    longitude = location.getLongitude();
  }

  // return
  longitudereturn
  longitude;
}

/**
  * Function to check GPS/wifi enabled
  * @return boolean
* */

public boolean
  canGetLocation() {return
  this.canGetLocation;
}

/**
  * Function to show settings alert dialog
  * On pressing Settings button will lauch Settings Options
* */

public void showSettingsAlert(){
  AlertDialog.Builder alertDialog = new AlertDialog.Builder(mContext);

  // Setting Dialog Title
  alertDialog.setTitle("GPS is settings");

  // Setting Dialog Message
  alertDialog.setMessage("GPS is not enabled. Do you want to go to settings menu?");

  // On pressing Settings button
  alertDialog.setPositiveButton("Settings", new DialogInterface.OnClickListener()
    {public void onClick(DialogInterface dialog,int which) {
      Intent intent = new Intent(Settings.ACTION_LOCATION_SOURCE_SETTINGS);
      mContext.startActivity(intent);
    }
  });

  // on pressing cancel button
  alertDialog.setNegativeButton("Cancel", new
    DialogInterface.OnClickListener() {public void onClick(DialogInterface
    dialog, int which) {
```

```
        dialog.cancel();
      }
    });

    // Showing Alert
    Message
    alertDialog.show();
  }

  @Override
  public void onLocationChanged(Location location) {
  }

  @Override
  public void onProviderDisabled(String provider) {
  }

  @Override
  public void onProviderEnabled(String provider) {
  }

  @Override
  public void onStatusChanged(String provider, int status, Bundle extras) {
  }

  @Override
  public IBinder onBind(Intent
    arg0) {return null;
  }
}
```

- So now the Coding part is also completed.
- Now run the application to see the output.

Output:



DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, Android Application that shows the current location's latitude and longitude continuously as the device is moving (tracking). Also, the application that shows the current location on Google maps uses GPS location information is developed and executed successfully.

Ex. No: 12 **Create an application that uses a text file to store user names and passwords (tab separated fields and one record per line). When the user submits a login**

Date: **name and password through a screen, the details should be verified with the text file data and if they match, show a dialog saying that login is successful. Otherwise, show the dialog with Login Failed message.**

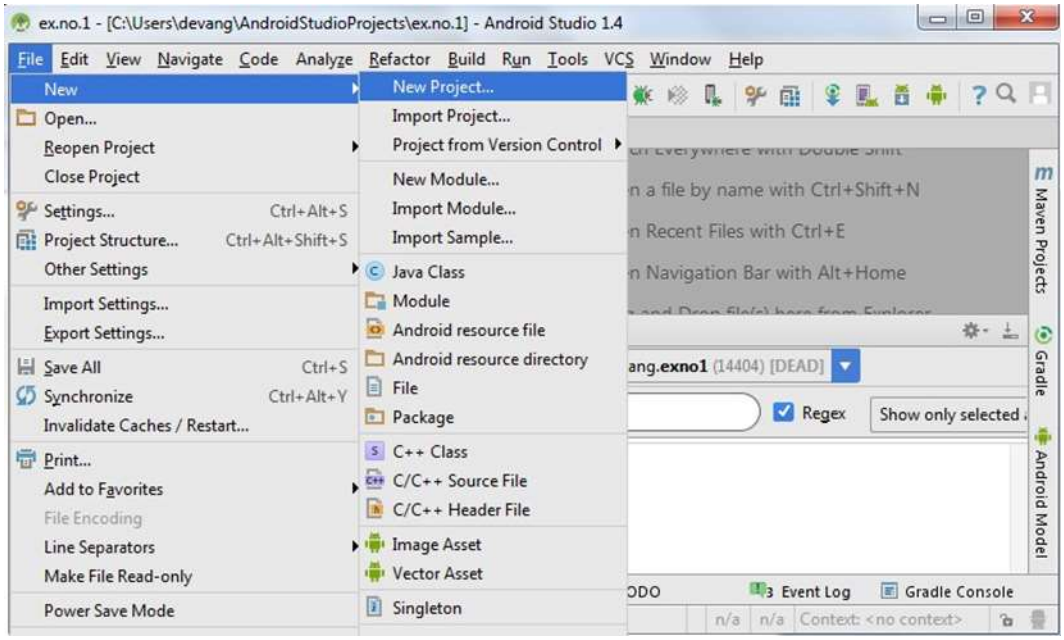
Aim:

To develop an Android Application that Create an application that uses a text file to store user names and passwords (tab separated fields and one record per line). When the user submits a login name and password through a screen, the details should be verified with the text file data and if they match, show a dialog saying that login is successful. Otherwise, show the dialog with Login Failed message.

Procedure:

Creating a New project:

- Open Android Studio and then click on **File -> New -> New project**.



- Then type the Application name as **"exno7"**and click Next.
- Then **select the Minimum SDK** as shown below and click Next.
- Then **select the Empty Activity** and click Next.
- Finally click **Finish**.
- It will take some time to build and load the project.
- After completion it will look as given below.

Designing layout for the Android Application:

- Click on **app -> res -> layout -> activity_main.xml**.
- Now click on Text as shown below.
- Then delete the code which is there and type the code as given below.

Program:

MainActivity.java

```
package dev.udhayakumar.exp12;

import android.Manifest;
import android.annotation.SuppressLint;
import android.content.pm.PackageManager;
import android.database.Cursor;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.ListView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;
import androidx.core.app.ActivityCompat;

import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    ListView listView ;
    ArrayList<String> StoreContacts ;
    ArrayAdapter<String> arrayAdapter ;
    Cursor cursor ;
    String name, phonenumber ;
    public  static final int RequestPermissionCode  = 1 ;
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        listView = (ListView)findViewById(R.id.listview1);

        button = (Button)findViewById(R.id.button1);

        StoreContacts = new ArrayList<String>();

        EnableRuntimePermission();
```

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

                GetContactsIntoArrayList();

                arrayAdapter = new ArrayAdapter<String>(
                        MainActivity.this,
                        R.layout.contact_items_listview,
                        R.id.textView, StoreContacts
                );

                listView.setAdapter(arrayAdapter);


            }
        });

    }

    @SuppressLint("Range")
    public void GetContactsIntoArrayList(){

        cursor =
getContentResolver().query(ContactsContract.CommonDataKinds.Phone.CONTENT_URI, null,null,
null, null);

        while (cursor.moveToNext()) {

            name =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.DISPLAY_NAME
));

            phonenumber =
cursor.getString(cursor.getColumnIndex(ContactsContract.CommonDataKinds.Phone.NUMBER));

            StoreContacts.add(name + " "  + ":" + " " + phonenumber);
        }

        cursor.close();

    }

    public void EnableRuntimePermission(){

        if (ActivityCompat.shouldShowRequestPermissionRationale(
                MainActivity.this,
                Manifest.permission.READ_CONTACTS))
        {

            Toast.makeText(MainActivity.this,"CONTACTS permission allows us to Access CONTACTS
```

```
app", Toast.LENGTH_LONG).show();

        } else {

            ActivityCompat.requestPermissions(MainActivity.this,new String[]{
                    Manifest.permission.READ_CONTACTS}, RequestPermissionCode);

        }
    }

    @Override
    public void onRequestPermissionsResult(int RC, String per[], int[] PResult) {

        super.onRequestPermissionsResult(RC, per, PResult);
        switch (RC) {

            case RequestPermissionCode:

                if (PResult.length > 0 && PResult[0] == PackageManager.PERMISSION_GRANTED) {

                    Toast.makeText(MainActivity.this, "Permission Granted, Now your application can access
CONTACTS.", Toast.LENGTH_LONG).show();

                } else {

                    Toast.makeText(MainActivity.this, "Permission Canceled, Now your application cannot
access CONTACTS.", Toast.LENGTH_LONG).show();

                }
                break;
        }
    }


}
```

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="dev.udhayakumar.exp5.MainActivity"
    android:background="#FFF"
    android:padding="4dp">

    <ListView
        android:layout_width="fill_parent"
```

```
        android:layout_height="fill_parent"
        android:layout_centerHorizontal="true"
        android:id="@+id/listview1"
        android:layout_below="@+id/button1" />

    <Button
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/button1"
        android:text="Click Here to load Contacts" />

</RelativeLayout>
```

Layout -> Right click -> new -> layout resource -> file name -> mylist.xml

contact_items_listview.xml

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent" android:layout_height="match_parent">
    <TextView
        android:text="Name : "
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:id="@+id/textView"
        android:textSize="20dp"
        android:textColor="#000000"
        android:gravity="center"/>
</RelativeLayout>
```

Output:

DEPARTMENT OF CSE		
Preparation(Algorithm)	4	
Observation(Program)	4	
Results(Output)	4	
Interpretation(Validation)	4	
Viva-Voce	4	
Total	20	

Result:

Thus, Android Application that Create an application that uses a text file to store user names and passwords (tab separated fields and one record per line). When the user submits a login name and password through a screen, the details should be verified with the text file data and if they match, show a dialog saying that login is successful. Otherwise, show the dialog with Login Failed message.is developed and executed successfully.