Name: _____

Roll No.: _____

Class: S.Y.B.Sc. CS. Sem IV

Subject: Android Developer Fundamentals

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Practical No. 1

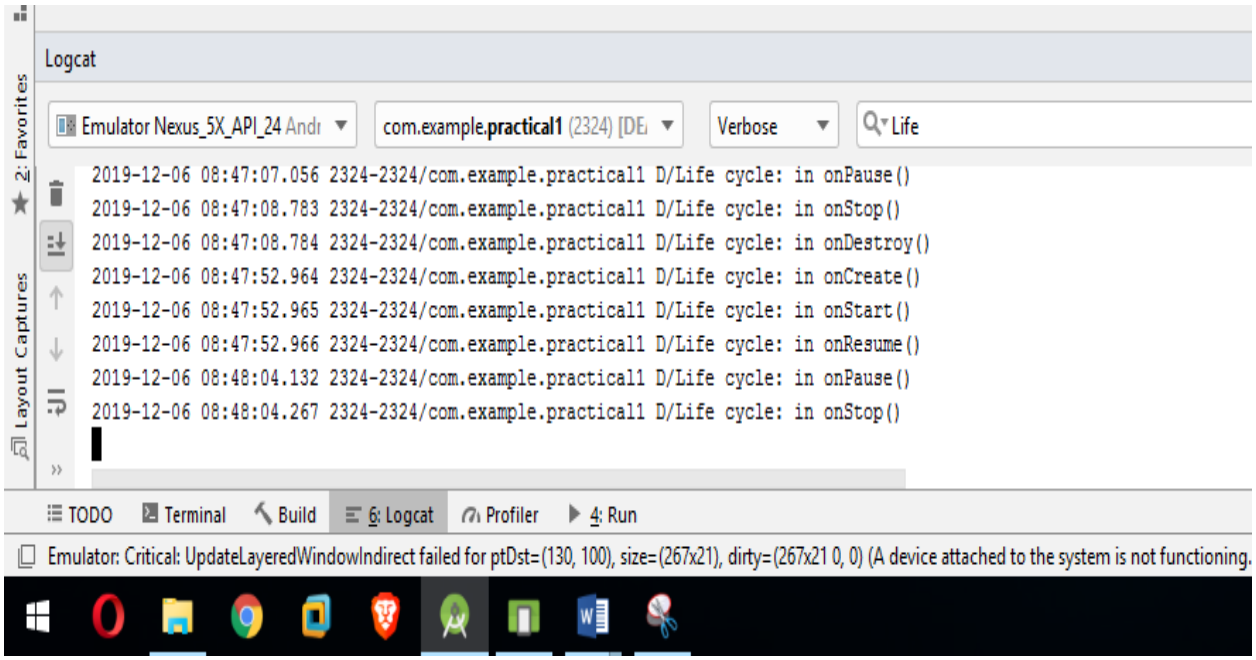
Aim: Write an Android program for demonstrating the life-cycle of activity.

MainActivity.java:

```
package com.example.practical1;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {
    String tag="Life cycle";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(tag,"in onCreate()");
    }

    @Override
    protected void onStart() {
        super.onStart();
        Log.d(tag,"in onStart()");
    }

    @Override
    protected void onResume() {
        super.onResume();
        Log.d(tag,"in onResume()");
    }

    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d(tag,"in onRestart()");
    }

    @Override
    protected void onPause() {
        super.onPause();
        Log.d(tag,"in onPause()");
    }
```

```
    @Override
    protected void onStop() {
        super.onStop();
        Log.d(tag,"in onStop()");
    }

    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d(tag,"in onDestroy()");
    }
}
```

Output:



Practical No. 2

Aim: Write an Android program to demonstrate different Layouts.

activity_final.xml:

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

   <Button
      android:id="@+id/btnlh"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Linear Layout Horizontal" />

   <Button
      android:id="@+id/btnlv"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Linear Layout Vertical" />

   <Button
      android:id="@+id/btnr"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Relative Layout" />

</LinearLayout>
```

Activity_main.xml:

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

   <Button
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button1"
        android:textSize="25dp"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button2"
        android:textSize="25dp"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button3"
        android:textSize="25dp"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button4"
        android:textSize="25dp"/>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button5"
        android:textSize="25dp"/>

</LinearLayout>
```

activity_main2.xml:

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

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button1"
        />

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

```
    android:text="Button2"
    />
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button3"
    />
  <Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button4"
    />
</LinearLayout>
```

Activity_main3.xml:

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

  <Button
    android:id="@+id/btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button1"
    android:layout_alignParentRight="true"/>

  <Button
    android:id="@+id/btn2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button2"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"/>
  <Button
    android:id="@+id/btn3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button3"
    />

  <Button
    android:id="@+id/btn4"
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:text="Button4"
    android:layout_alignParentBottom="true"/>

<Button
    android:id="@+id/btn5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button5"
    android:layout_centerHorizontal="true"/>

<Button
    android:id="@+id/btn6"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button6"
    android:layout_centerVertical="true"/>

<Button
    android:id="@+id/btn7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button7"
    android:layout_centerInParent="true"/>


<Button
    android:id="@+id/btn8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button8"
    android:layout_toRightOf="@+id/btn7"
    android:layout_centerInParent="true"/>

<Button
    android:id="@+id/btn9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Button9"
    android:layout_above="@+id/btn7"
    android:layout_centerInParent="true"/>

<Button
    android:id="@+id/btn10"
    android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:text="Button10"
        android:layout_below="@+id/btn7"
        android:layout_centerInParent="true"/>

    <Button
        android:id="@+id/btn11"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button11"
        android:layout_toRightOf="@+id/btn5"
        android:layout_below="@+id/btn5"/>

    <Button
        android:id="@+id/btn12"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button12"
        android:layout_toLeftOf="@+id/btn10"
        android:layout_below="@+id/btn10"/>
    <Button
        android:id="@+id/btn13"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Button13"
        android:layout_above="@+id/btn9"
        android:layout_alignParentRight="true"/>

</RelativeLayout>
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.practical2">

    <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/AppTheme">
        <activity android:name=".Final">
            <intent-filter>
```

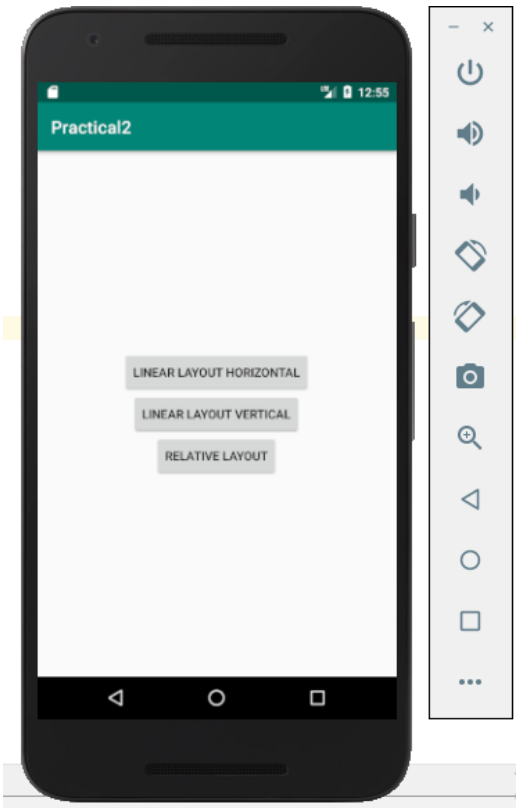
```
            <action android:name="android.intent.action.MAIN" />

            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>

    <activity android:name=".Main4Activity" />
    <activity android:name=".Main3Activity" />
    <activity android:name=".Main2Activity" />
    <activity android:name=".MainActivity">

    </activity>
</application>

</manifest>
```

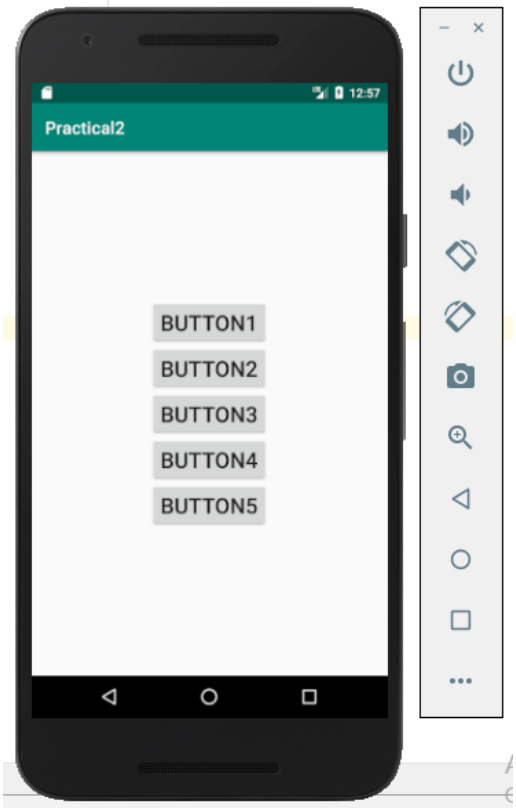
Final.java:

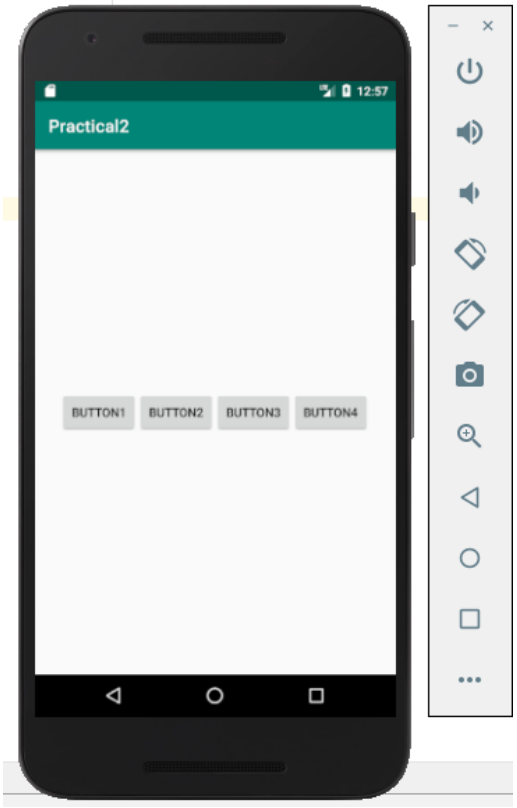
```
package com.example.practical2;

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

public class Final extends AppCompatActivity
{
    Button btn1,btn2,btn3;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_final);
        btn1 = (Button)findViewById(R.id.btnlh);
        btn2 = (Button)findViewById(R.id.btnlv);
        btn3 = (Button)findViewById(R.id.btnr);

        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i = new Intent(getApplicationContext(),MainActivity.class);
                startActivity(i);
            }
        });
```

```
        btn2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i = new Intent(getApplicationContext(),Main2Activity.class);
                startActivity(i);
            }
        });

        btn3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent i = new Intent(getApplicationContext(),Main3Activity.class);
                startActivity(i);
            }
        });
    }
}
```

Output:


12:55
Practical2
LINEAR LAYOUT HORIZONTAL
LINEAR LAYOUT VERTICAL
RELATIVE LAYOUT


12:57
Practical2
BUTTON1
BUTTON2
BUTTON3
BUTTON4
BUTTON5


12:57
Practical2
BUTTON1
BUTTON2
BUTTON3
BUTTON4


12:58
Practical2
BUTTON3
BUTTON5
BUTTON1
BUTTON11
BUTTON13
BUTTON9
BUTTON6
BUTTON7
BUTTON8
BUTTON10
BUTTON12
BUTTON4
BUTTON2

Practical No. 3

Aim: Write an Android program to demonstrate the working of different views (TextView, EditText, Button, ImageButton, ToggleButton, RadioButton, CheckBox).

activity_main.xml:

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

   <Button
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/btns"
      android:text="Save"
      android:textSize="25dp"/>

   <Button
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/btno"
      android:text="Open"
      android:textSize="25dp"/>

   <ImageButton
      android:id="@+id/imgbtn"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:src="@mipmap/ic_launcher"
      tools:srcCompat="@tools:sample/avatars" />

   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:hint="This is edit text"
      android:id="@+id/et" />

   <CheckBox
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/cb1"
```

```
        android:text="Auto Save"
        android:textSize="25dp"/>

    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/cb2"
        android:text="Auto Open"
        android:textSize="25dp"
        style="?android:attr/starStyle"/>
    <RadioGroup
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/rg">
        <RadioButton
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/rb1"
            android:text="Option1"
            android:textSize="25dp"/>
        <RadioButton
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/rb2"
            android:textSize="25dp"
            android:text="Option2"/>
    </RadioGroup>

    <ToggleButton
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/tb"/>

</LinearLayout>
```

MainActivity.java:

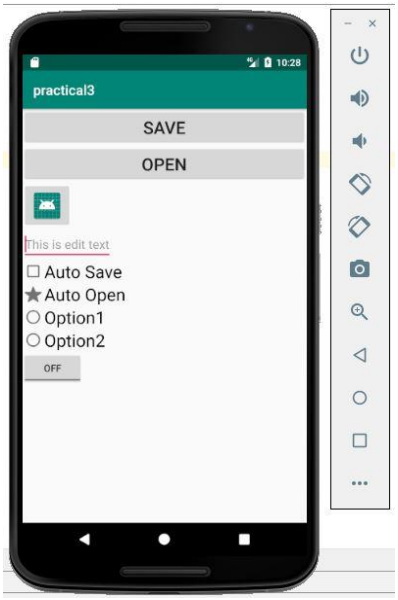
```
package com.example.practical3;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
```

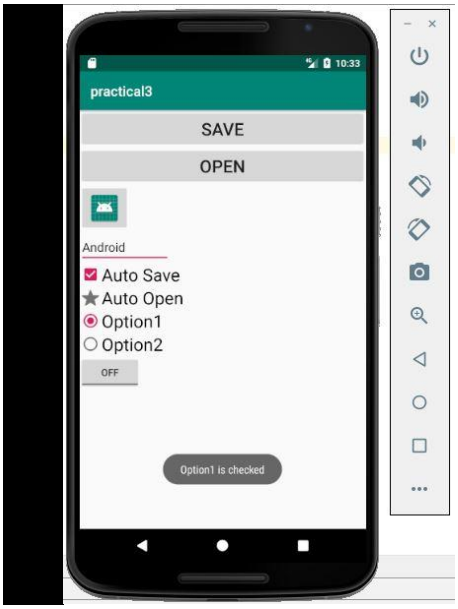
```
import android.widget.ImageButton;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;
import android.widget.ToggleButton;


public class MainActivity extends AppCompatActivity {
    Button btno,btns;
    ImageButton ib;
    EditText et;
    CheckBox cb1,cb2;
    RadioGroup rg;
    RadioButton rb1, rb2;
    ToggleButton tb;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btno=(Button)findViewById(R.id.btno);
        btns=(Button)findViewById(R.id.btns);
        ib=(ImageButton)findViewById(R.id.imgbtn);
        et=(EditText)findViewById(R.id.et);
        cb1=(CheckBox)findViewById(R.id.cb1);
        cb2=(CheckBox)findViewById(R.id.cb2);
        rg=(RadioGroup)findViewById(R.id.rg);
        rb1=(RadioButton)findViewById(R.id.rb1);
        rb2=(RadioButton)findViewById(R.id.rb2);
        tb=(ToggleButton)findViewById(R.id.tb);

        btns.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                DisplayToast("Save Button Clicked");
            }
        });

        btno.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                DisplayToast("Open Button Clicked");
            }
        });
        ib.setOnClickListener(new View.OnClickListener() {
            @Override
```

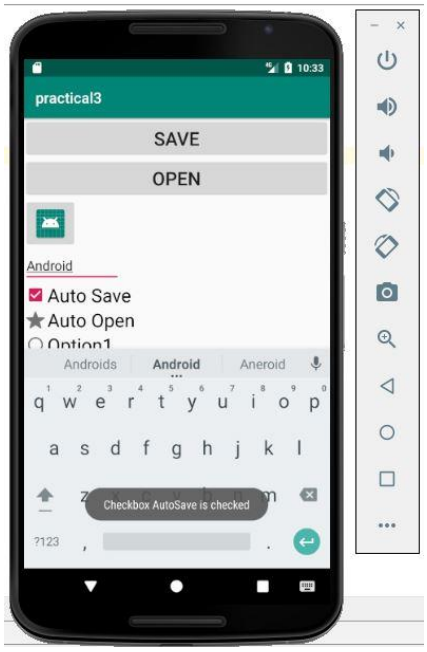
```
    public void onClick(View v) {
        DisplayToast("Image Button Clicked");
    }
});

cb1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (((CheckBox)v).isChecked())
        {
            DisplayToast("Checkbox AutoSave is checked");
        }
        else {
            DisplayToast("Checkbox AutoSave is Unchecked");
        }
        }
});

cb2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        if (((CheckBox)v).isChecked()) {
            DisplayToast("Checkbox AutoOpen is Checked");
        }
        else {
            DisplayToast("Checkbox AutoOpen is Unchecked");
        }
    }
});

rg.setOnCheckedChangeListener(new RadioGroup.OnCheckedChangeListener() {
    @Override
    public void onCheckedChanged(RadioGroup group, int checkedId) {
        if(rb1.isChecked())
        {
            DisplayToast("Option1 is checked");
        }
        else
        {
            DisplayToast("Option2 is checked");
        }
    }
});

tb.setOnClickListener(new View.OnClickListener() {
```

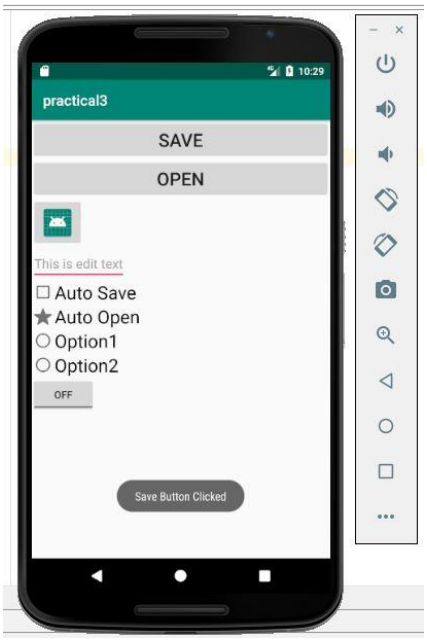
```
        @Override
        public void onClick(View v) {
            if(tb.isChecked())
            {
                DisplayToast("Toggle button is ON");
            }
            else
            {
                DisplayToast("Toggle button is OFF");
            }
        }
    });
}

public void DisplayToast(String s)
{
    Toast.makeText(this,s,Toast.LENGTH_SHORT).show();
}
}
```

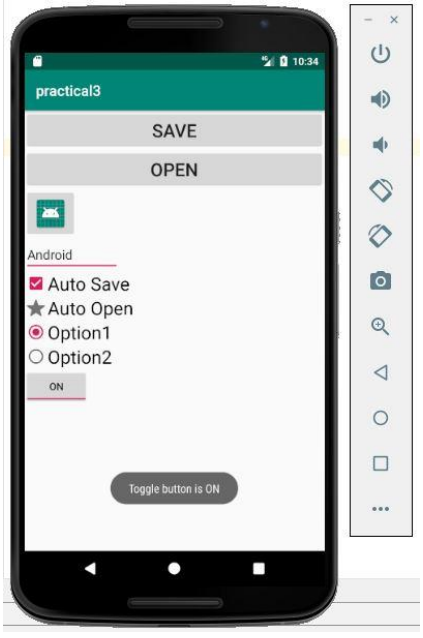
Output:


practical3
SAVE
OPEN
This is edit text
Auto Save
Auto Open
Option1
Option2
OFF


practical3
SAVE
OPEN
Android
Auto Save
Auto Open
Option1
Option2
OFF
Option1 is checked


practical3
SAVE
OPEN
Android
Auto Save
Auto Open
Checkbox AutoSave is checked


practical3
SAVE
OPEN
This is edit text
Auto Save
Auto Open
Option1
Option2
OFF
Save Button Clicked


practical3
SAVE
OPEN
Android
Auto Save
Auto Open
Option1
Option2
ON
Toggle button is ON

Practical No. 4

Aim: Design an android application to accept Name, Gender, Hobbies from the user and display the information entered by the user (Make use of EditText, RadioButton, CheckBox, TextView, Button).

activity_main.xml:

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

   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:hint="Enter Name"
      android:id="@+id/etn"/>
   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Gender"/>
   <RadioGroup
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/rg">
      <RadioButton
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="Male"
         android:id="@+id/rbm"/>
      <RadioButton
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/rbf"
            android:text="Female"/>
      <RadioButton
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:id="@+id/rbo"
         android:text="Others"/>
   </RadioGroup>
```

```
<TextView
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:text="Hobbies"/>
<CheckBox
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:id="@+id/cb1"
   android:text="Swimming"/>
<CheckBox
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:id="@+id/cb2"
   android:text="Reading"/>
<CheckBox
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:id="@+id/cb3"
   android:text="Music"/>
<CheckBox
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:id="@+id/cb4"
   android:text="Sports"/>
<CheckBox
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:id="@+id/cb5"
   android:text="Travelling"/>
<Button
   android:layout_width="match_parent"
   android:layout_height="wrap_content"
   android:text="OK"
   android:id="@+id/btnok"
   android:onClick="onclick"/>
<TableLayout
   android:layout_width="wrap_content"
   android:layout_height="wrap_content">
   <TableRow>
      <TextView
         android:layout_height="wrap_content"
         android:layout_width="wrap_content"
         android:text="Name"/>
      <TextView
         android:layout_height="wrap_content"
```

```
            android:layout_width="wrap_content"
            android:id="@+id/tvn"
            android:text=""/>
        </TableRow>

        <TableRow>
          <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:text="Gender"/>
          <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:id="@+id/tvg"
            android:text=""/>
        </TableRow>
        <TableRow>
          <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:text="Hobbies"/>
          <TextView
            android:layout_height="wrap_content"
            android:layout_width="wrap_content"
            android:id="@+id/tvh"
            android:text=""/>
        </TableRow>
    </TableLayout>
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Clear"
        android:id="@+id/btnclr"
        android:onClick="clrclick"/>
</LinearLayout>
```

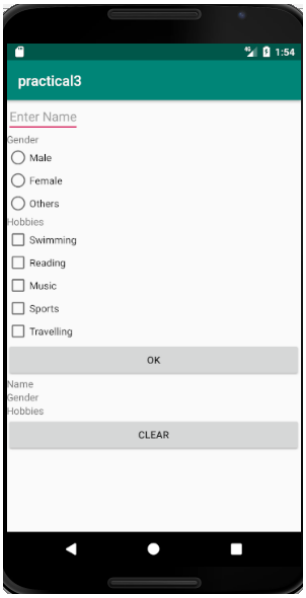
MainActivity.java:

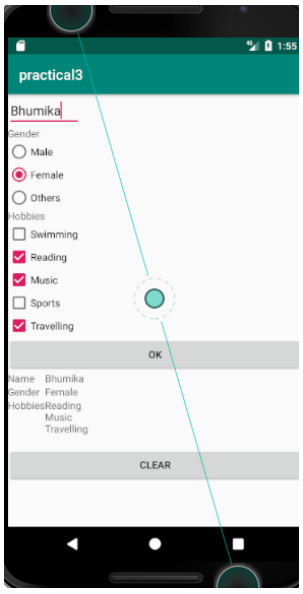
```
package com.example.practical3;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
```

```
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;


public class MainActivity extends AppCompatActivity {

    EditText et;
    RadioGroup rg;
    RadioButton rtm, rtf, rto;
    CheckBox cb1, cb2, cb3, cb4, cb5;
    TextView tvn, tvg, tvh;
    String s="";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et= (EditText)findViewById(R.id.etn);
        rg= (RadioGroup)findViewById(R.id.rg);
        rtm =(RadioButton)findViewById(R.id.rbm);
        rtf =(RadioButton)findViewById(R.id.rbf);
        rto =(RadioButton)findViewById(R.id.rbo);
        cb1=(CheckBox)findViewById(R.id.cb1);
        cb2=(CheckBox)findViewById(R.id.cb2);
        cb3=(CheckBox)findViewById(R.id.cb3);
        cb4=(CheckBox)findViewById(R.id.cb4);
        cb5=(CheckBox)findViewById(R.id.cb5);
        tvn=(TextView)findViewById(R.id.tvn);
        tvg=(TextView)findViewById(R.id.tvg);
        tvh=(TextView)findViewById(R.id.tvh);
    }

    public void onclick(View view)
    {
        tvn.setText(et.getText());
        if(rtm.isChecked())
            tvg.setText(rtm.getText());
        else if (rtf.isChecked())
            tvg.setText(rtf.getText());
        else
            tvg.setText(rto.getText());
        if(cb1.isChecked())
            s = s+cb1.getText()+"\n";
```

```
        if(cb2.isChecked())
            s = s+cb2.getText()+"\n";
        if(cb3.isChecked())
            s = s+cb3.getText()+"\n";
        if(cb4.isChecked())
            s = s+cb4.getText()+"\n";
        if(cb5.isChecked())
            s = s+cb5.getText()+"\n";
        tvh.setText(s);
    }

    public void clrclick(View view)
    {
        et.setText("");
        rtm.setChecked(false);
        rtf.setChecked(false);
        rto.setChecked(false);
        cb1.setChecked(false);
        cb2.setChecked(false);
        cb3.setChecked(false);
        cb4.setChecked(false);
        cb5.setChecked(false);
        tvn.setText("");
        tvg.setText("");
        tvh.setText("");
        s="";
    }
}
```

Output:


1:54
practical3
Enter Name
Gender
Male
Female
Others
Hobbies
Swimming
Reading
Music
Sports
Travelling
OK
Name
Gender
Hobbies
CLEAR


1:55
practical3
Bhumika
Gender
Male
Female
Others
Hobbies
Swimming
Reading
Music
Sports
Travelling
OK
Name Bhumika
Gender Female
HobbiesReading
Music
Travelling
CLEAR

Practical No. 5

Aim: Write an android program to demonstrate passing of data from one activity to another activity.

Main_Activity.xml

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


   <EditText
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:hint="Enter a value"
      android:textSize="25dp"
      android:id="@+id/edtvalue"/>

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Click"
      android:layout_below="@id/edtvalue"
      android:textSize="25dp"
      android:onClick="showText"
      android:id="@+id/btnclick"/>

</RelativeLayout>
```

MainActivity.java

```
package com.example.pracs5;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

   @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void showText(View view)
    {
        EditText ed = (EditText)findViewById(R.id.edtvalue);
        String msg = ed.getText().toString();
        Intent in = new Intent(this,Main2Activity.class);
        in.putExtra("my key", msg);
        startActivity(in);
    }
}
```

Main_Activity2.xml

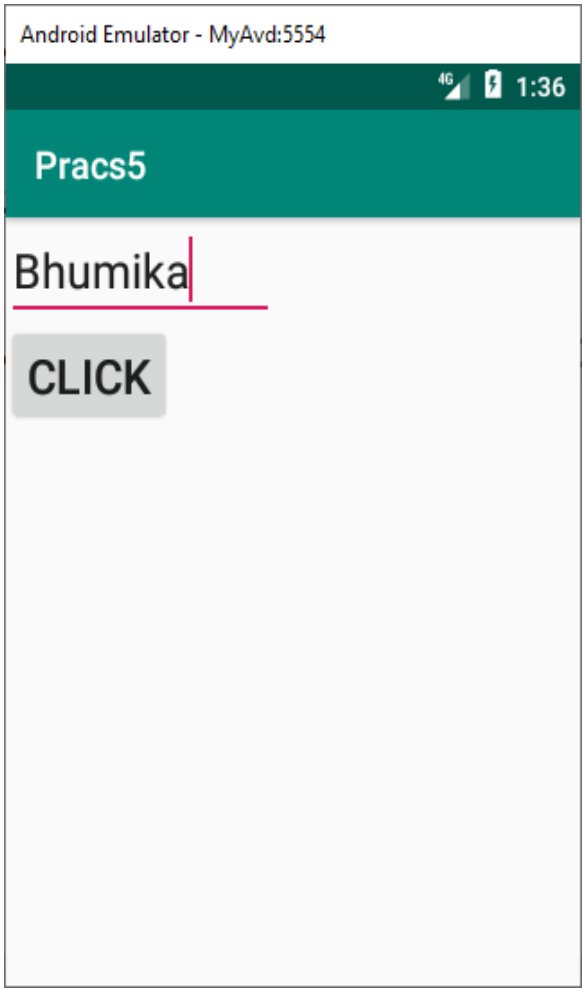
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
    android:layout_width="match_parent"
    xmlns:android="http://schemas.android.com/apk/res/android" >

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/textview"
        android:textSize="25dp"/>

</RelativeLayout>
```

Main2Activity.java

```
package com.example.pracs5;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;

public class Main2Activity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
```

```
        TextView tv = (TextView)findViewById(R.id.textview);
        String myvalue = getIntent().getExtras().getString("my key");
        tv.setText("Value = " + myvalue );
    }
}
```

Output:



Practical No. 6

Aim: Write an android program to demonstrate passing of data from one activity to another activity and reply back to main activity.

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
   android:layout_width="match_parent"
   xmlns:android="http://schemas.android.com/apk/res/android" >
   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Click"
      android:textSize="25dp"
      android:onClickc="onclick"
      android:id="@+id/btnclick"/>

</RelativeLayout>
```

mainActivity.java

```
package com.example.myapplication5;

import android.content.Intent;
import android.support.annotation.Nullable;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
   }
   public void onclick(View view)
   {
      Intent i=new Intent(this,Main2Activity.class);
      i.putExtra("Str1","This is a String");
      i.putExtra("Str2",25);
```

```
        startActivityForResult(i,1);
    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        {
            if (requestCode==1)
            {
                if (resultCode==RESULT_OK)
                {

Toast.makeText(this,Integer.toString(data.getIntExtra("Str3",0)),Toast.LENGTH_LONG).sho
w();
                }
            }
        }
    }
}
```

Activity_main2.xml

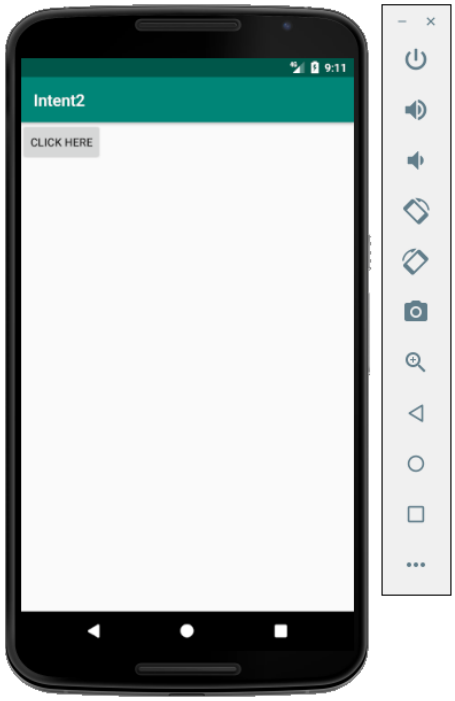
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
    android:layout_width="match_parent"
    xmlns:android="http://schemas.android.com/apk/res/android" >

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/btn1"
    android:text="click here"
    android:textSize="25dp"
    android:onClick="onClickHere"/>
</RelativeLayout>
```

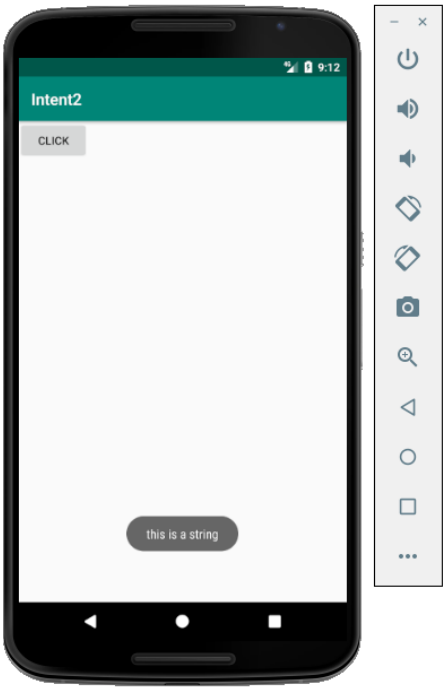
main2Activity.java

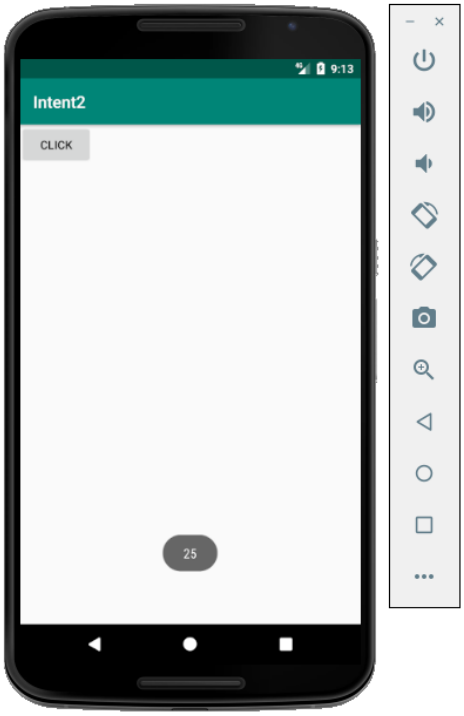
```
package com.example.myapplication5;

import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
```

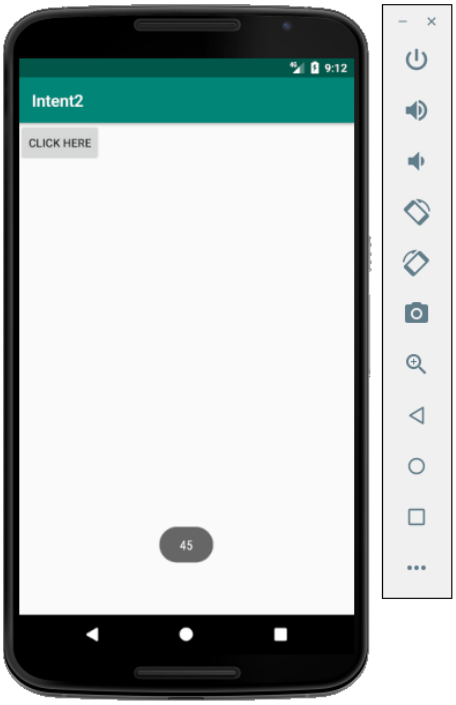
```
import android.widget.Toast;

public class Main2Activity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        Toast.makeText(this,getIntent().getStringExtra("Str1"),Toast.LENGTH_LONG).show();

Toast.makeText(this,Integer.toString(getIntent().getIntExtra("Str2",0)),Toast.LENGTH_LON
G).show();
    }
    public void onClickHere(View view)
    {
        Intent i=new Intent(this,MainActivity.class);
        i.putExtra("Str3",45);
        setResult(RESULT_OK,i);
        finish();
    }
}
```

Output:


9:11
Intent2
CLICK HERE


9:12
Intent2
CLICK
this is a string


9:13
Intent2
CLICK
25


9:12
Intent2
CLICK HERE
45

Practical No. 7

Aim: Write an android program to demonstrate the working of Spinner.

activity_main.Xml

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

   <Spinner
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:id="@+id/spinner1"
         android:layout_margin="20dp"
         android:layout_toRightOf="@+id/spinner1">

   </Spinner>
   <Spinner
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:id="@+id/spinner2"
         android:layout_margin="20dp"
         android:layout_toRightOf="@+id/spinner2">

   </Spinner>
   <Button
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:id="@+id/btn_click"
         android:text="Click Here"
         android:textSize="25dp"
         android:layout_centerVertical="true"/>

</RelativeLayout>
```

Strings.xml:

```
<resources>
   <string name="app_name">My Application</string>
   <string-array name="country_name">
      <item>India</item>
      <item>South Afrcia</item>
```

```
        <item>Brazil</item>
        <item>New Zealand</item>
        <item>Australia</item>
    </string-array>
</resources>
```

MainActivity.java:

```
package com.example.myapplication;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity {

    Spinner sp1,sp2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        sp1=(Spinner)findViewById(R.id.spinner1);
        sp2=(Spinner)findViewById(R.id.spinner2);
        List lst=new ArrayList();
        lst.add("Smeet");
        lst.add("Sawan");
        lst.add("Yash");

        ArrayAdapter adp1 = new ArrayAdapter(this,android.R.layout.simple_spinner_item,lst);
        adp1.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        sp1.setAdapter(adp1);

        ArrayAdapter adp2 =
ArrayAdapter.createFromResource(this,R.array.country_name,android.R.layout.simple_spinner_item);
        adp2.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        sp2.setAdapter(adp2);
```

```
    }
public void clickhere(View view)
{
    String str1, str2;
    str1=sp1.getSelectedItem().toString();
    str2=sp2.getSelectedItem().toString();
    Toast.makeText(this,"Data from spinner1 = "+str1+" & Data from spinner2 =
"+str2,Toast.LENGTH_LONG).show();
}
}
```

Output:

Practical No. 8

Aim: Write an android program to demonstrate the working of ListView.

activity_main.Xml

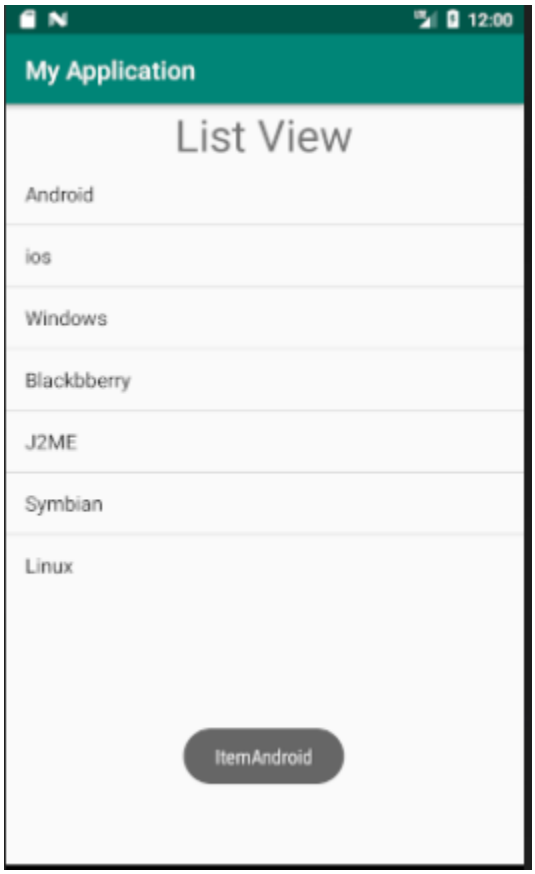
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
   android:layout_width="match_parent"
   xmlns:android="http://schemas.android.com/apk/res/android" >

   <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="List View"
      android:textSize="35dp"
      android:layout_centerHorizontal="true"
      android:id="@+id/tv"/>
   <ListView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/lv"
      android:layout_below="@+id/tv"/>
</RelativeLayout>
```

MainActivity.java:

```
package com.example.myapplication;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

```
        setContentView(R.layout.activity_main);
        final String[] s =
{"Android","ios","Windows","Blackbberry","J2ME","Symbian","Linux"};
        lv = (ListView)findViewById(R.id.lv);
        ArrayAdapter adp = new  ArrayAdapter(this,android.R.layout.simple_list_item_1,s);
        lv.setAdapter(adp);

        lv.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
                Toast.makeText(MainActivity.this,"Item Clicked:
"+i,Toast.LENGTH_LONG).show();
                Toast.makeText(MainActivity.this,"Item"+ s[i],Toast.LENGTH_LONG).show();
            }
        });
    }
}
```

Output:



Practical No. 9

Aim: Write an android program to demonstrate the working of Menus.

activity_main.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout android:layout_height="match_parent"
   android:layout_width="match_parent"
   android:orientation="vertical"
   android:gravity="center"
   xmlns:android="http://schemas.android.com/apk/res/android" >
<TextView
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:text="click on menu button "
   android:textSize="25dp"/>
</LinearLayout>
```

Menu.xml:

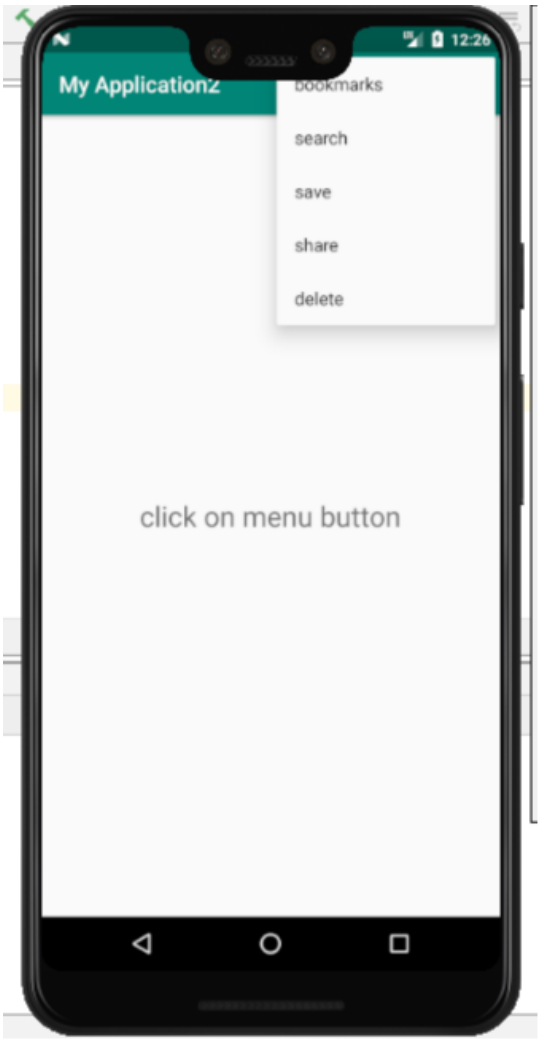
```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
   <item
   android:id="@+id/bm"
   android:title="bookmarks"/>
   <item
      android:id="@+id/sr"
      android:title="search"/>
   <item
      android:id="@+id/sa"
      android:title="save"/>
   <item
      android:id="@+id/sh"
      android:title="share"/>
   <item
      android:id="@+id/dlt"
      android:title="delete"/>
</menu>
```

MainActivity.java:

```
package com.example.myapplication;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater mi = getMenuInflater();
        mi.inflate(R.menu.menu,menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId())
        {
            case R.id.bm:
                Toast.makeText(this,"Bookmark selected",Toast.LENGTH_LONG).show();
                return true;
            case R.id.sr:
                Toast.makeText(this,"Search selected",Toast.LENGTH_LONG).show();
                return true;

            case R.id.sa:
                Toast.makeText(this,"Save selected",Toast.LENGTH_LONG).show();
                return true;

            case R.id.sh:
                Toast.makeText(this,"Share selected",Toast.LENGTH_LONG).show();
                return true;

            case R.id.dlt:
                Toast.makeText(this,"Delete selected",Toast.LENGTH_LONG).show();
```

```
            return true;


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

Output:



Practical No. 10

Aim: Develop an android application for working with Notifications.

Activity_main.Xml:

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

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Notify"
      android:textSize="25dp"
      android:onClick="notify"
      android:id="@+id/btn1"/>
</LinearLayout>
```

Activity_Dummy.xml:

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

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Notify"
      android:textSize="25dp"
      android:onClick="notify"
      android:id="@+id/btn1"/>
</LinearLayout>
```

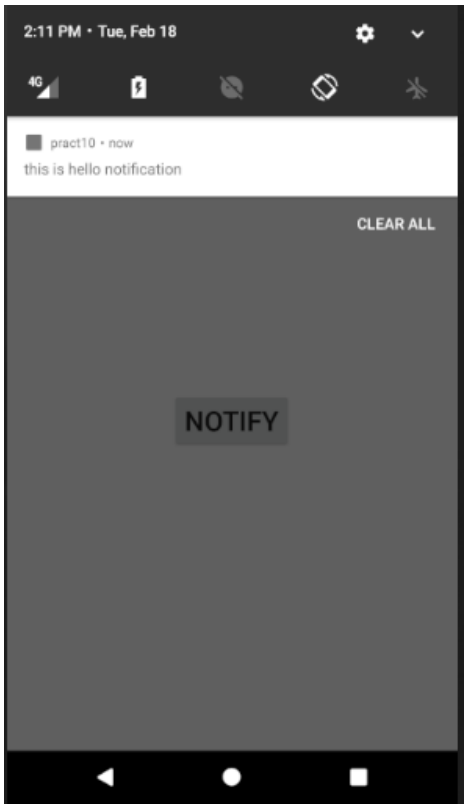
MainActivity.java:

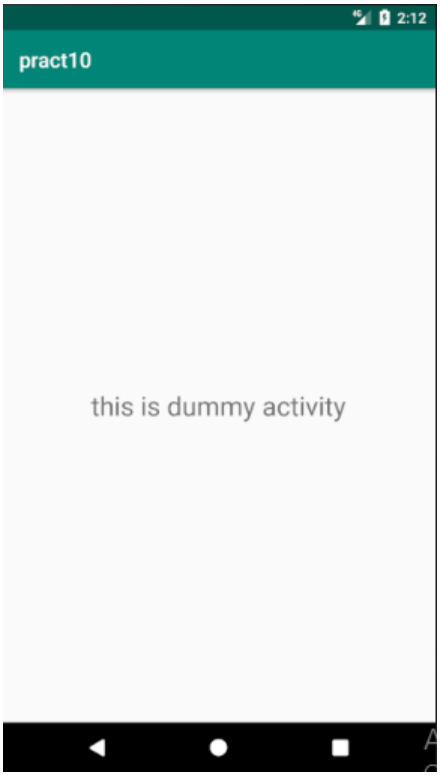
```
package com.example.user.pract10;
```

```
import android.app.NotificationManager;
import android.app.PendingIntent;
import android.content.Intent;
import android.support.v4.app.NotificationCompat;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;

public class MainActivity extends AppCompatActivity {

    int notifyID=1;
    int numMsg=0;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void notify(View view)
    {
        numMsg=1;
        NotificationManager
nm=(NotificationManager)getSystemService(NOTIFICATION_SERVICE);
        Intent i=new Intent (getApplicationContext(),Dummy.class);
        PendingIntent pi= PendingIntent.getActivity(this,(int)System.currentTimeMillis(),i,0);
        NotificationCompat.Builder ncb=(NotificationCompat.Builder)new
NotificationCompat.Builder(this)
                .setNumber(numMsg)
                .setSmallIcon(R.mipmap.ic_launcher)
                .setContentIntent(pi)
                .setContentText("Hello")
                .setContentText("this is hello notification")
                .setAutoCancel(true);
        nm.notify(notifyID,ncb.build());


    }
}
```

Output:


2:10
pract10
NOTIFY


2:11 PM • Tue, Feb 18
pract10 • now
this is hello notification
CLEAR ALL
NOTIFY


2:12
pract10
this is dummy activity

Practical No. 11

Aim: Write an android program for working with WebView.

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
   android:layout_width="match_parent"
   xmlns:android="http://schemas.android.com/apk/res/android" >
   <WebView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/wv1"/>

   <WebView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/wv2"
      android:layout_below="@+id/wv1"/>
</RelativeLayout>
```

AndroidManifest.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   package="com.example.user.myapplication">
   <uses-permission
android:name="android.permission.ACCESS_NETWORK_STATE"/>
   <uses-permission android:name="android.permission.INTERNET"/>
   <application
      android:usesCleartextTraffic="true"
      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/AppTheme">
      <activity android:name=".MainActivity">
         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
      </activity>
```

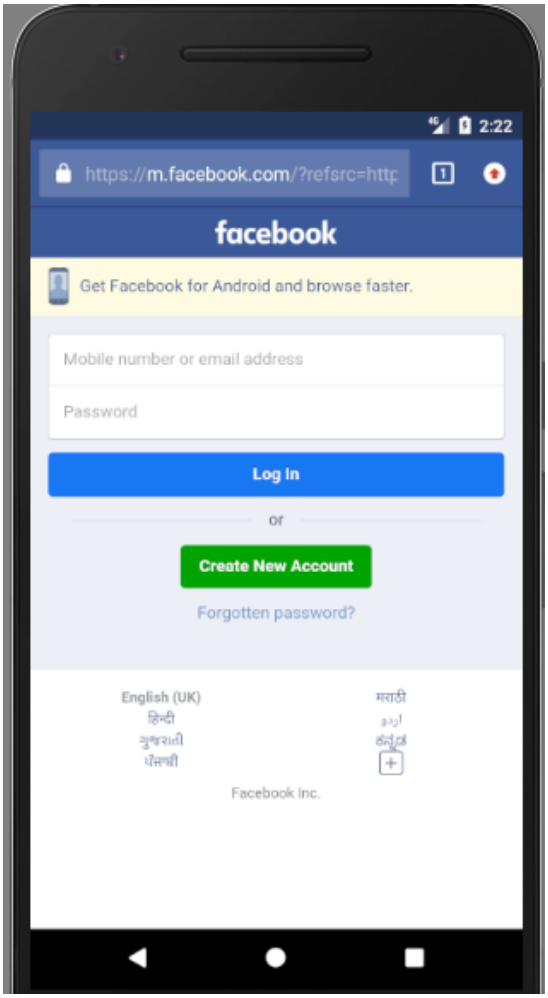
```
    </application>
</manifest>
```

MainActivity.java:

```
package com.example.user.myapplication;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.webkit.WebChromeClient;
import android.webkit.WebView;
import android.webkit.WebViewClient;

public class MainActivity extends AppCompatActivity {

    WebView wv1,wv2;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        wv1=(WebView)findViewById(R.id.wv1);
        wv2=(WebView)findViewById(R.id.wv2);

        wv1.loadUrl("http://google.com");
        wv2.loadUrl("http://facebook.com");

        wv1.setWebViewClient(new WebViewClient());
        wv2.setWebChromeClient(new WebChromeClient());

    }

}
```

Output:


2:21
My Application
ALL
IMAGES
Sign in
Google
Weather
Sports
Entertainment News
Restaurants
Google offered in:
हिन्दी বাংলা తెలుగు मराठी தமிழ் ગુજરાતી ಕನ್ನಡ
മലയാളം ਪੰਜਾਬੀ
India
Settings
Privacy
Terms
Advertising
Business
About


2:22
https://m.facebook.com/?refsrc=http
facebook
Get Facebook for Android and browse faster.
Mobile number or email address
Password
Log In
or
Create New Account
Forgotten password?
English (UK)
हिन्दी
ગુજરાતી
ਪੰਜਾਬੀ
मराठी
اردو
ಕನ್ನಡ
Facebook Inc.

Practical No. 12

Aim: Write an android program to demonstrate internal storage to store private data on the device memory.

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout android:layout_height="match_parent"
   android:layout_width="match_parent"
   xmlns:android="http://schemas.android.com/apk/res/android" >
   <EditText
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/edt"
      android:hint="Enter data"
      android:inputType="textMultiLine"/>
   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/btnr"
      android:layout_below="@+id/edt"
      android:text="Read"
      android:onClick="ReadData"
      android:textSize="25dp"/>
   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/btnw"
      android:layout_below="@+id/btnr"
      android:text="Write"
      android:onClic"k=WriteData"
      android:textSize="25dp"/>
</RelativeLayout>
```

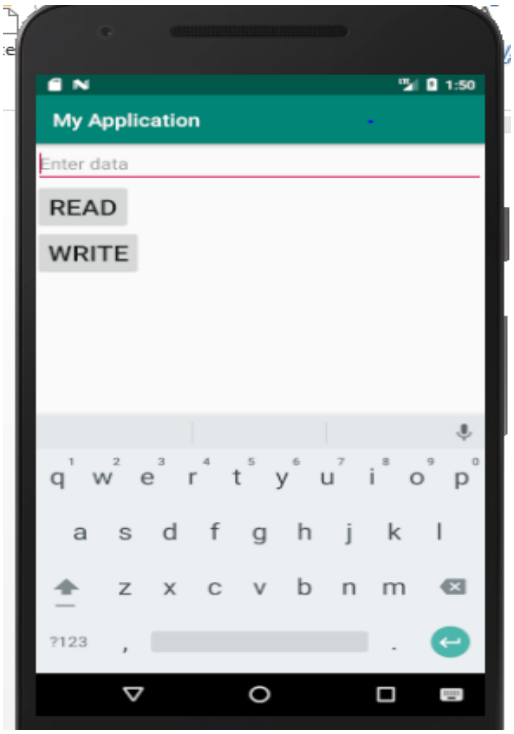
MainActivity.java:

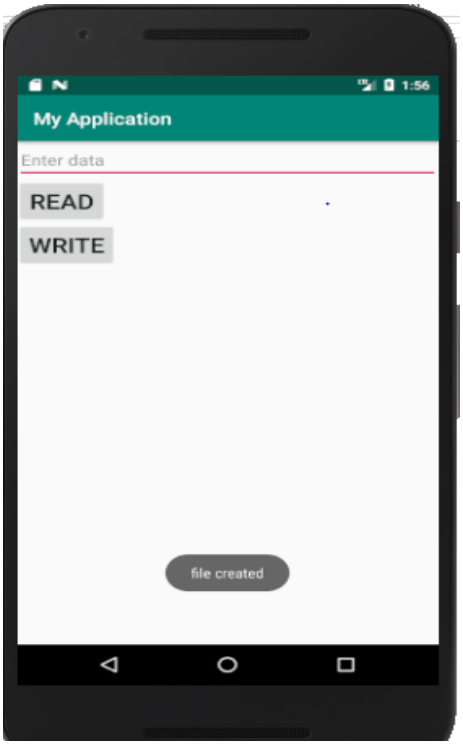
```
package com.example.myapplication;

import android.content.Context;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
```

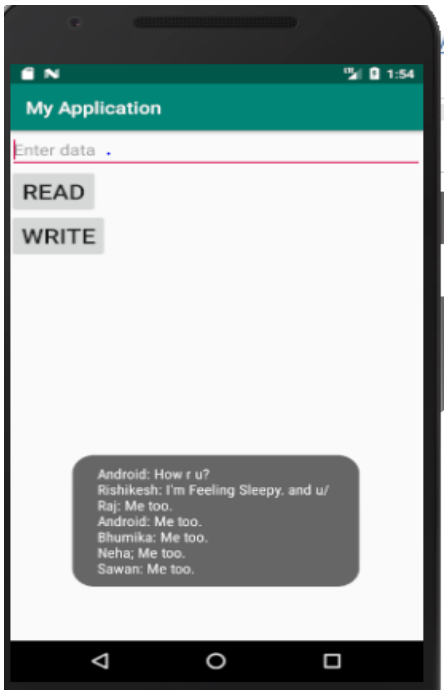
```
import android.widget.Toast;

import java.io.FileInputStream;
import java.io.FileOutputStream;

public class MainActivity extends AppCompatActivity {

    EditText edt;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        edt=(EditText)findViewById(R.id.edt);

    }
    public void WriteData(View view)
    {
        try {
            FileOutputStream fo=openFileOutput("st.txt", Context.MODE_PRIVATE);
            String s=edt.getText().toString();
            fo.write(s.getBytes());
            fo.close();
            edt.setText("");
            Toast.makeText(this, "file created", Toast.LENGTH_LONG).show();
        }
        catch (Exception e){
            Toast.makeText(this, "file not created", Toast.LENGTH_LONG).show();
        }

    }
    public void ReadData(View view){
        try {
            FileInputStream fi = openFileInput("st.txt");
            String t = "";
            int i;
            while ((i = fi.read()) != -1) {
                t = t + Character.toString((char) i);
            }
            Toast.makeText(this, t, Toast.LENGTH_SHORT).show();
            fi.close();
        }
        catch (Exception e1){
            Toast.makeText(this, "can't read the data", Toast.LENGTH_SHORT).show();
        }
```

```
    }
}
```

Output:


1:50
My Application
Enter data
READ
WRITE


1:56
My Application
Enter data
READ
WRITE
file created


1:54
My Application
Enter data
READ
WRITE
Android: How r u?
Rishikesh: I'm Feeling Sleepy. and u/
Raj: Me too.
Android: Me too.
Bhumika: Me too.
Neha; Me too.
Sawan: Me too.

Practical No. 13

Aim: Write an Android Program to demonstrate the working of Color, Style, Strings & Drawable.

Colors.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#008577</color>
    <color name="colorPrimaryDark">#00574B</color>
    <color name="colorAccent">#D81B60</color>
    <color name="colorRed">#FF0000</color>
    <color name="colorBlue">#0000FF</color>
</resources>
```

Strings.xml:

```
<resources>
    <string name="app_name">me1</string>
    <string name="Heading">Hello World</string>
    <string name="Description">This is string.xml and here we can create new strings which can be used in our application</string>
</resources>
```

Styles.xml:

```
<resources>
    <!-- Base application theme. -->
    <style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
        <!-- Customize your theme here. -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>

    <style name="BlueTheme" parent="Theme.AppCompat.Light.DarkActionBar">
        <!-- Customize your theme here. -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
        <item name="android:background">#00F0EF</item>
        <item name="android:textColor">#000000</item>
    </style>
</resources>
```

AndroidManifest.xml:

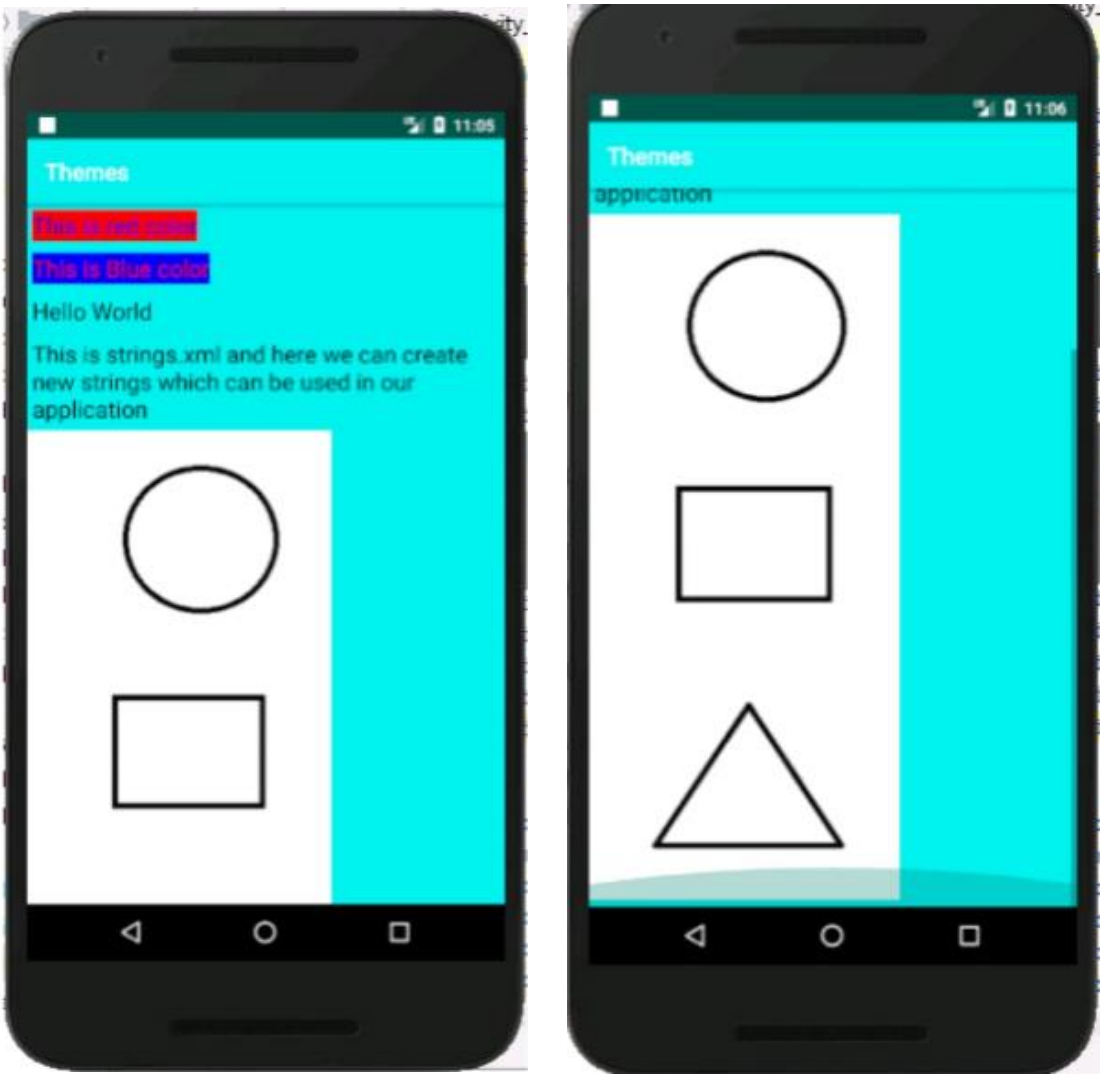
```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.me1">

    <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/BlueTheme">
        <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>
```

Activity_main.xml:

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

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

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:background="@color/colorRed"
            android:text="This is color Red"
            android:textColor="@color/colorBlue"
            android:textSize="25dp" />
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="This is color blue"
```

```
        android:textSize="25dp"
        android:textColor="@color/colorRed"
        android:background="@color/colorBlue"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/Heading"
        android:textSize="25dp"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/Description"
        android:textSize="25dp"/>
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/triangle"/>
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/rectangle"/>
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:src="@drawable/circle"/>

  </LinearLayout>
</ScrollView>
```

Output:


11:05
Themes
This is red color
This is Blue color
Hello World
This is strings.xml and here we can create new strings which can be used in our application
11:06
Themes
application

Practical No. 14

Aim: Write an Android program to demonstrate different types of dialog windows (Alert dialog, Progress dialog, DatePicker dialog, TimePicker dialog).

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout android:layout_width="match_parent"
android:layout_height="match_parent" android:orientation="vertical"
xmlns:android="http://schemas.android.com/apk/res/android">
   <Button
      android:layout_width="match_parent"
      android:layout_height="wrap_content" android:text="onAlert"
android:textSize="25dp" android:onClick="onAlertDailog" />
   <Button
   android:layout_width="match_parent"
   android:layout_height="wrap_content" android:text="ProgressDailog"
android:textSize="25dp" android:onClick="onProgressDailog" />

   <Button
      android:layout_width="match_parent"
      android:layout_height="wrap_content" android:text="DatePickerDailog"
android:textSize="25dp" android:onClick="DatePickerDailog" />
   <Button
      android:layout_width="match_parent"
      android:layout_height="wrap_content" android:text="TimePickerDailog"
android:textSize="25dp" android:onClick="onTimePickerDailog" />
   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content" android:id="@+id/txtDate"
android:textSize="25dp" />
   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content" android:id="@+id/txtTime"
android:textSize="25dp" />
</LinearLayout>
```

MainActivity.java

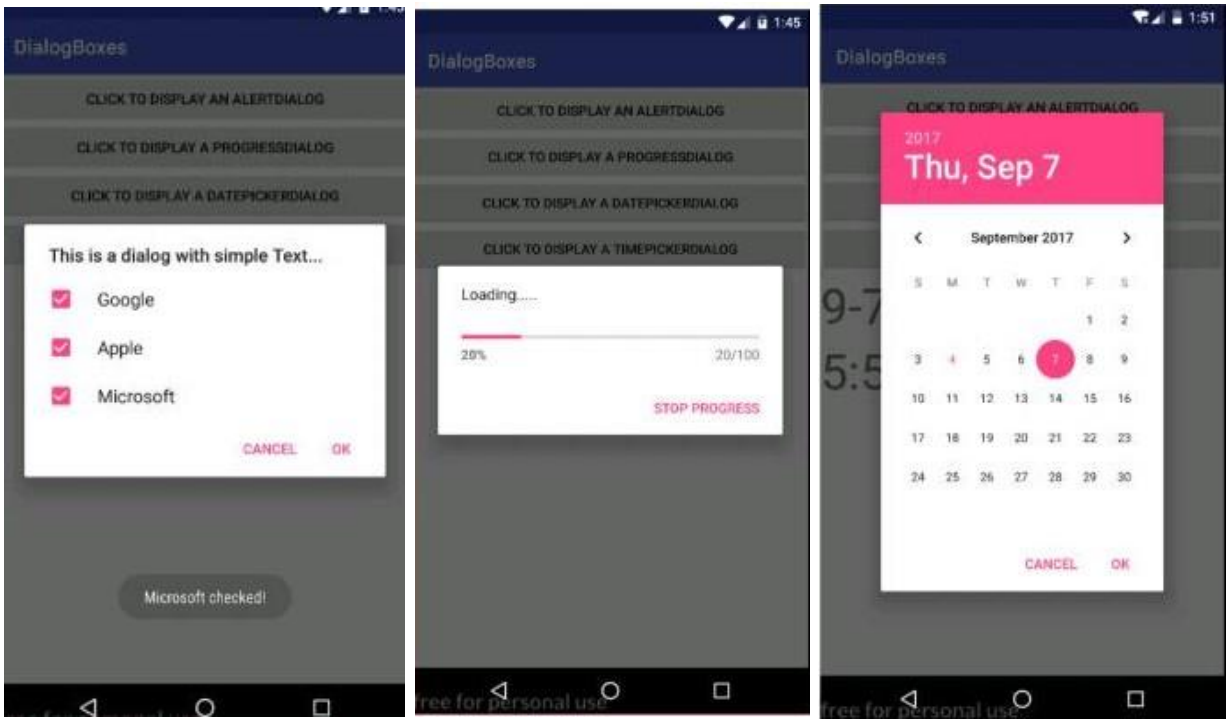
```
package com.example.mcoc.practical_14;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
```

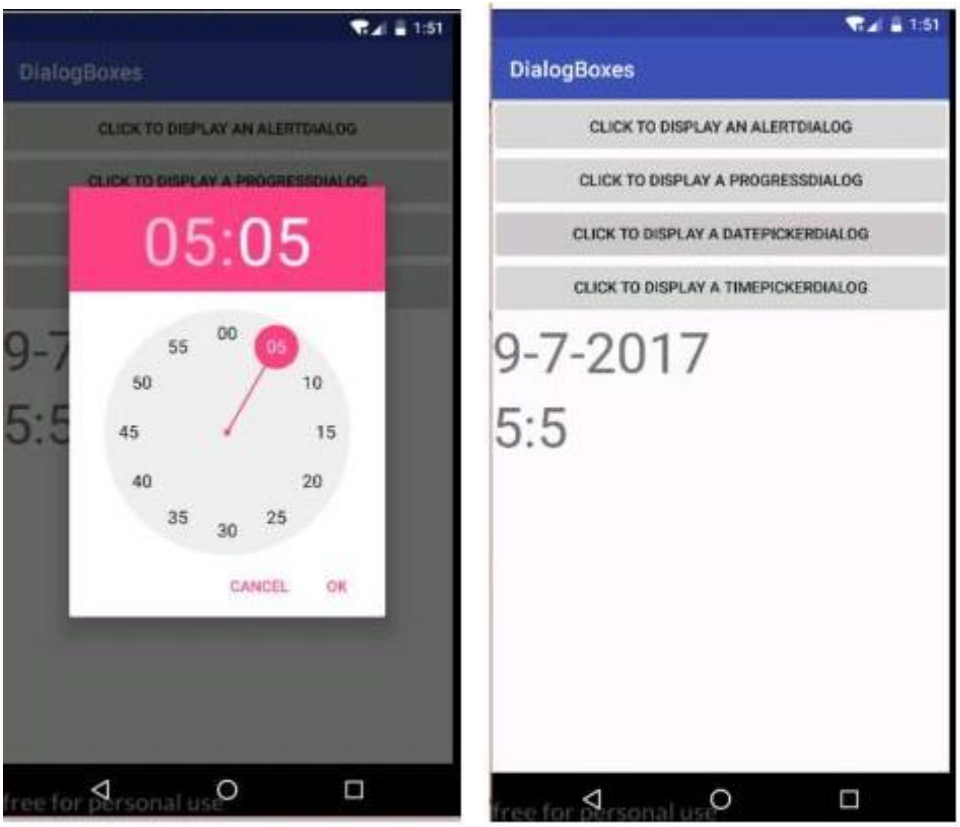
```
import android.app.DatePickerDialog;
import android.app.Dialog;
import android.app.ProgressDialog;
import android.app.TimePickerDialog;
import android.content.DialogInterface;
import android.os.Bundle;
import android.view.View;
import android.widget.DatePicker;
import android.widget.TextView;
import android.widget.TimePicker;
import android.widget.Toast;

import java.util.Calendar;

public class MainActivity extends AppCompatActivity {

    CharSequence [] items={"Google","Apple","Microsoft"};
    boolean [] itemchecked = new boolean[items.length];

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public  void onAlertDailog(View view)
    {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setTitle("This is a Dialog wioth simple text...");
        builder.setPositiveButton("Ok", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                Toast.makeText(getBaseContext(),"Ok Clicked", Toast.LENGTH_LONG).show();
            }
        });

        builder.setNegativeButton("Cancel", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                Toast.makeText(getBaseContext(), "Cancel
Clicked",Toast.LENGTH_LONG).show();
            }
        });

        builder.setMultiChoiceItems(items, itemchecked, new
```

```
DialogInterface.OnMultiChoiceClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i, boolean b) {
                Toast.makeText(getBaseContext(),items[i] + (b ? "Checked..." :
"Unchecked.."),Toast.LENGTH_LONG).show();
            }
        });

        AlertDialog dialog = builder.create();
        builder.show();
    }
    public void onProgressDailog(View view)
    {
        final ProgressDialog pDialog = new ProgressDialog(this);
        pDialog.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
        pDialog.setMessage("Loading....");
        pDialog.incrementProgressBy(20);

        pDialog.setButton(Dialog.BUTTON_POSITIVE, "Stop progress", new
DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                pDialog.dismiss();
            }
        });
        pDialog.show();
    }

    public void DatePickerDailog(View view)
    {
        final int mYear, mMonth,mDay;
        final TextView txtdate = (TextView)findViewById(R.id.txtDate);
        DatePickerDialog dateDialog;
        Calendar c = Calendar.getInstance();
        mYear = c.get(Calendar.YEAR);
        mMonth = c.get(Calendar.MONTH);
        mDay = c.get(Calendar.DAY_OF_MONTH);

        final DatePickerDialog.OnDateSetListener mDateSetListner = new
DatePickerDialog.OnDateSetListener() {
            @Override
            public void onDateSet(DatePicker datePicker, int i, int i1, int i2) {
                txtdate.setText(new StringBuilder().append(i1 + 1).append("-").append(i2).append("-
").append(i));
```

```
            }
        };
        dateDialog = new DatePickerDialog(this,mDateSetListner,mYear,mMonth,mDay);
        dateDialog.show();
    }

    public void onTimePickerDailog(View view)
    {
        final int mHour , mMinute;
        final  TextView txtTime = (TextView)findViewById(R.id.txtTime);
        TimePickerDialog timeDialog ;
        Calendar c = Calendar.getInstance();
        mHour = c.get(Calendar.HOUR_OF_DAY);
        mMinute = c.get(Calendar.MINUTE);
        TimePickerDialog.OnTimeSetListener mTimeSetListner = new
TimePickerDialog.OnTimeSetListener() {
            @Override
            public void onTimeSet(TimePicker timePicker, int i, int i1) {
                txtTime.setText(new StringBuilder().append(i).append(":").append(i1));
            }
        };
        timeDialog = new TimePickerDialog(this,mTimeSetListner,mHour,mMinute,false);
        timeDialog.show();
    }
}
```

Output:


DialogBoxes
CLICK TO DISPLAY AN ALERTDIALOG
CLICK TO DISPLAY A PROGRESSDIALOG
CLICK TO DISPLAY A DATEPICKERDIALOG
This is a dialog with simple Text...
Google
Apple
Microsoft
CANCEL
OK
Microsoft checked!
DialogBoxes
CLICK TO DISPLAY AN ALERTDIALOG
CLICK TO DISPLAY A PROGRESSDIALOG
CLICK TO DISPLAY A DATEPICKERDIALOG
CLICK TO DISPLAY A TIMEPICKERDIALOG
Loading.....
28%
20/100
STOP PROGRESS
DialogBoxes
CLICK TO DISPLAY AN ALERTDIALOG
2017
Thu, Sep 7
September 2017
CANCEL
OK


DialogBoxes
CLICK TO DISPLAY AN ALERTDIALOG
CLICK TO DISPLAY A PROGRESSDIALOG
05:05
CANCEL
OK
DialogBoxes
CLICK TO DISPLAY AN ALERTDIALOG
CLICK TO DISPLAY A PROGRESSDIALOG
CLICK TO DISPLAY A DATEPICKERDIALOG
CLICK TO DISPLAY A TIMEPICKERDIALOG
9-7-2017
5:5