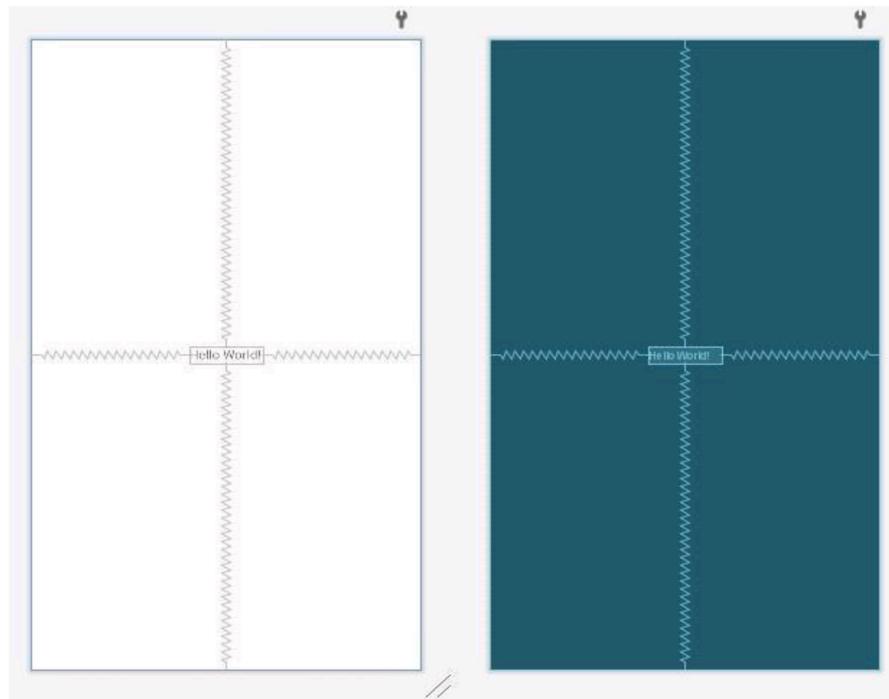


Practical – 1

Aim: Create an Android App to Run Hello World Program. Design:



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"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"      android:layout_height="wrap_content"
        android:layout_centerInParent="true"
        android:text="Hello World!"      app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

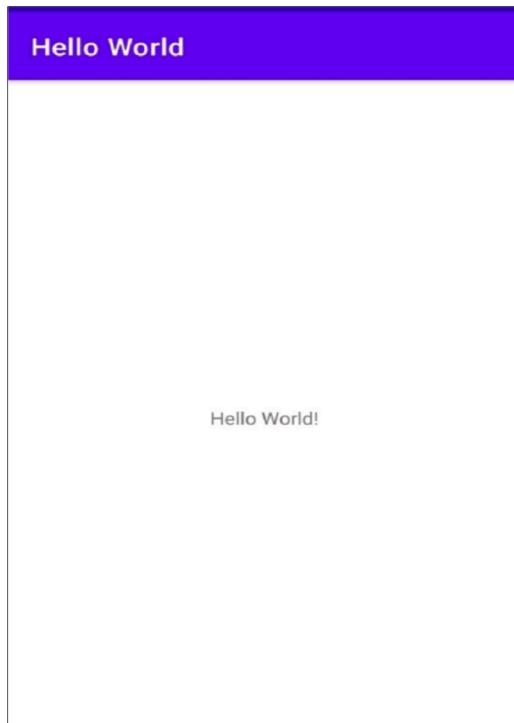
</RelativeLayout>
```

MainActivity.java

```
Package com.example.helloworld;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity
{
    @Override protected void onCreate(Bundle
 savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

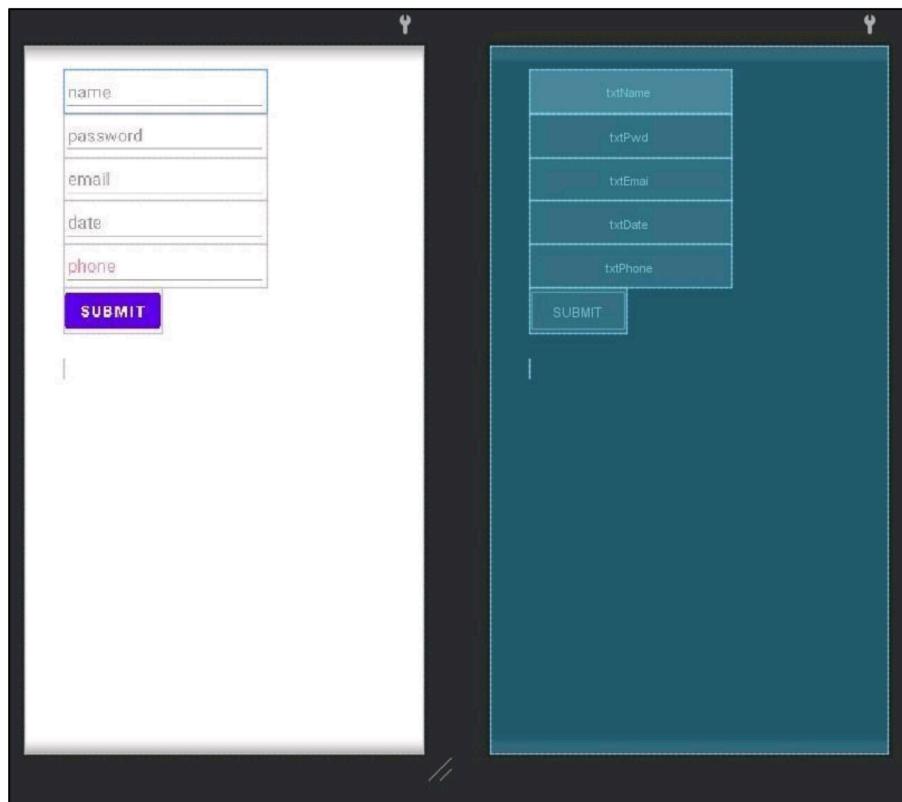
Output :



Practical – 2

Aim: Create an android app that demonstrates working with TextView Elements .

Design:



Activity_main.xml

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

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:paddingStart="40dp"    android:orientation="vertical"
    android:id="@+id/linearLayout"    tools:ignore="RtlSymmetry">

    <EditText    android:id="@+id/txtName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"    android:layout_marginTop="25dp"
        android:ems="10"    android:hint="@string/name"
        android:inputType="text"    android:selectAllOnFocus="true" />

    <EditText    android:id="@+id/txtPwd"
        android:layout_width="wrap_content"    android:layout_height="wrap_content"
```

```

        android:ems="10"      android:hint="@string/password_0_to_9"
        android:inputType="numberPassword" />
    <EditText
        android:id="@+id/txtEmail"      android:layout_width="wrap_content"
        android:layout_height="wrap_content"      android:ems="10"
        android:hint="@string/email"
        android:inputType="textEmailAddress" />      <EditText
        android:id="@+id/txtDate"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editText3"      android:ems="10"
        android:hint="@string/date"      android:inputType="date"
        tools:ignore="ObsoleteLayoutParam" />

    <EditText      android:id="@+id/txtPhone"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"      android:ems="10"
        android:hint="@string/phone_number"
        android:inputType="phone"
        android:textColorHint="#FE8DAB"/>
    <Button      android:id="@+id	btnSend"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/submit"      android:textSize="16sp"
        android:textStyle="normal|bold" />
    <TextView      android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/resultView"      android:layout_marginTop="25dp"
        android:textSize="15sp"/> </LinearLayout>

```

----- MainActivity.java -----

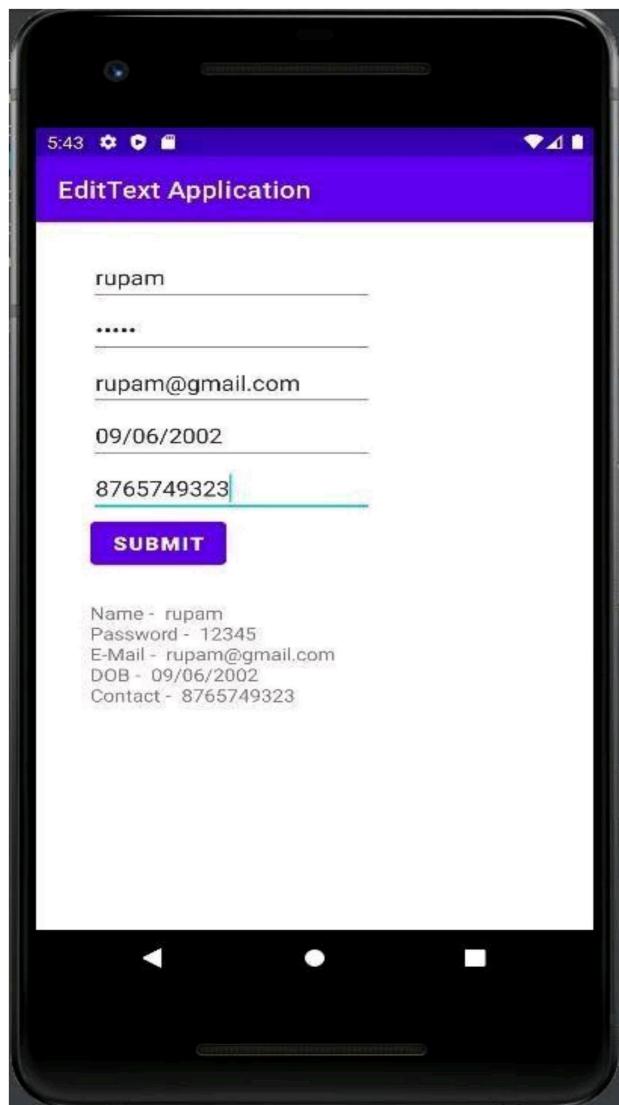
```

- x package com.example.edittextprogram; import
android.annotation.SuppressLint; import android.os.Bundle; import
android.view.View; import android.widget.Button; import
android.widget.EditText; import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
import org.w3c.dom.Text; public class MainActivity
extends AppCompatActivity
{
    Button btnSubmit;
    EditText name, password, email, dob, phoneno;
    TextView result;

```

```
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
name=(EditText)findViewById(R.id.txtName);
password = (EditText)findViewById(R.id.txtPwd); email =
(EditText)findViewById(R.id.txtEmail); dob =
(EditText)findViewById(R.id.txtDate); phoneno=
(EditText)findViewById(R.id.txtPhone); btnSubmit =
(Button)findViewById(R.id.btnSend); result =
(TextView)findViewById(R.id.resultView);
btnSubmit.setOnClickListener(new View.OnClickListener()
{
@SuppressLint("SetTextI18n")
@Override public void onClick(View v) { if
(name.getText().toString().isEmpty() || password.getText().toString().isEmpty() ||
email.getText().toString().isEmpty() || dob.getText().toString().isEmpty() ||
phoneno.getText().toString().isEmpty()) { result.setText("Please Fill
All the Details"); } else {
result.setText("Name - " + name.getText().toString() + "\n" + "Password - " +
password.getText().toString()
+ "\n" + "E-Mail - " + email.getText().toString() + "\n" + "DOB - " +
dob.getText().toString()
+ "\n" + "Contact - " + phoneno.getText().toString());
}
}
});
```

Output:



Practical - 3

Aim: Create an android app that demonstrates Activity Lifecycle.

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<android.support.constraint.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="example.javatpoint.com.activitylifecycle.MainActivity ">
    <TextView    android:layout_width="wrap_content"
        android:layout_height="wrap_content"    android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</android.support.constraint.ConstraintLayout>
```

MainActivity.java

```
package example.javatpoint.com.activitylifecycle;
import android.app.Activity; import
android.os.Bundle;
import android.util.Log;

public class MainActivity extends Activity {
    @Override protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle","onCreate invoked");
    }
    @Override protected void onStart()
    { super.onStart();
        Log.d("lifecycle","onStart invoked");
    }
    @Override protected void onResume()
    { super.onResume();
        Log.d("lifecycle","onResume invoked");
    }
}
```

```

}

@Override protected void onPause()
{
    super.onPause();
    Log.d("lifecycle","onPause invoked");
}

@Override protected void onStop()
{
    super.onStop();
    Log.d("lifecycle","onStop
invoked");

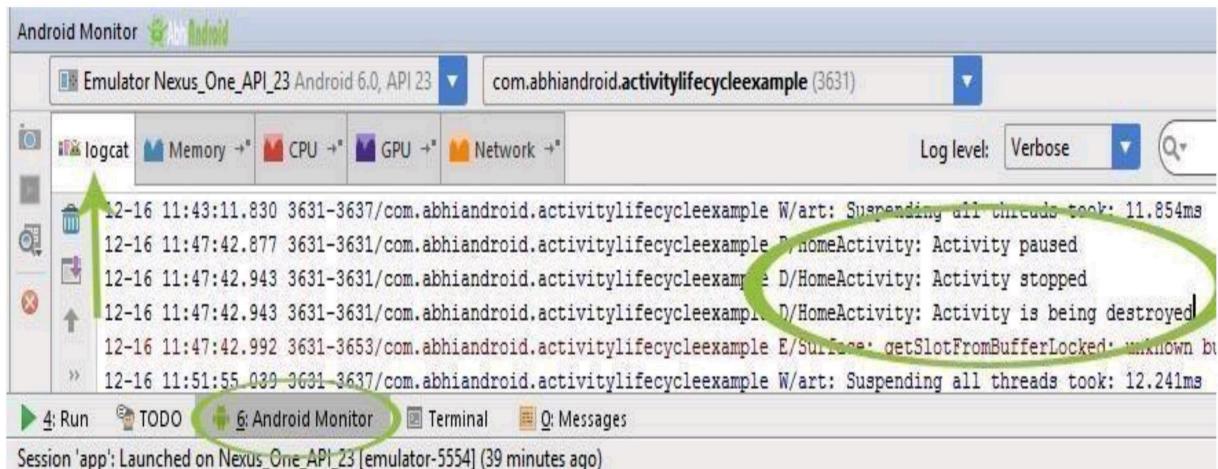
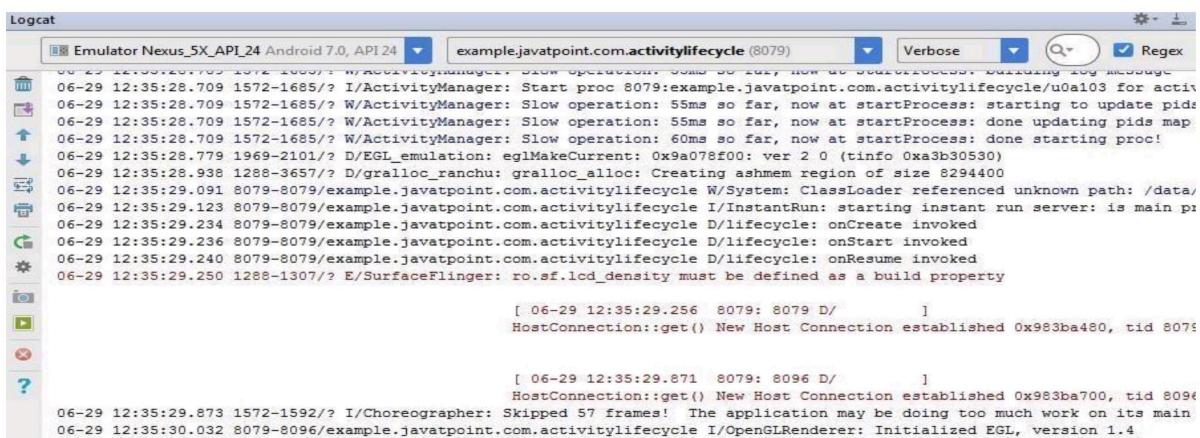
} @Override protected void
onRestart() { super.onRestart();

Log.d("lifecycle","onRestart invoked");
}

} }

}

```



Practical – 4

Aim: Create an android app that demonstrates the use of Alert.

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"    tools:context="MainActivity">

    <TextView      android:id="@+id/top_message"
        android:layout_width="wrap_content"      android:layout_height="wrap_content"
        android:text="@string/tap_test" />

    <Button      android:id="@+id/button1"
        android:layout_width="wrap_content"      android:layout_height="wrap_content"
        android:layout_below="@id/top_message"      android:layout_marginTop="10dp"
        android:text="@string/alert_button"      android:onClick="onClickShowAlert"
        tools:ignore="OnClick" />

</RelativeLayout>
```

MainActivity.java

```
package com.example.helloworld;
import android.app.AlertDialog; import android.content.DialogInterface; import
android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import      android.os.Bundle;      import
android.view.View;      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);
    }
    public void onClickShowAlert(View view) {
        AlertDialog.Builder myAlertDialog = new AlertDialog.Builder(MainActivity.this);
        // Set the dialog title.      myAlertDialog.setTitle("my alert box");      // Set the
```

```

dialog message.      myAlertBuilder.setMessage("hello tyit students");      //  

Add the buttons.  

myAlertBuilder.setPositiveButton("ok", new DialogInterface.OnClickListener()  

{      public void onClick(DialogInterface dialog, int which) {          // User  

clicked OK button.  

Toast.makeText(getApplicationContext(), "ok",  

Toast.LENGTH_SHORT).show();  

}  

});  

myAlertBuilder.setNegativeButton("cancel", new  

DialogInterface.OnClickListener() {  

public void onClick(DialogInterface dialog, int which)  

{          // User cancelled the dialog.  

Toast.makeText(getApplicationContext(),  

"cancel",  

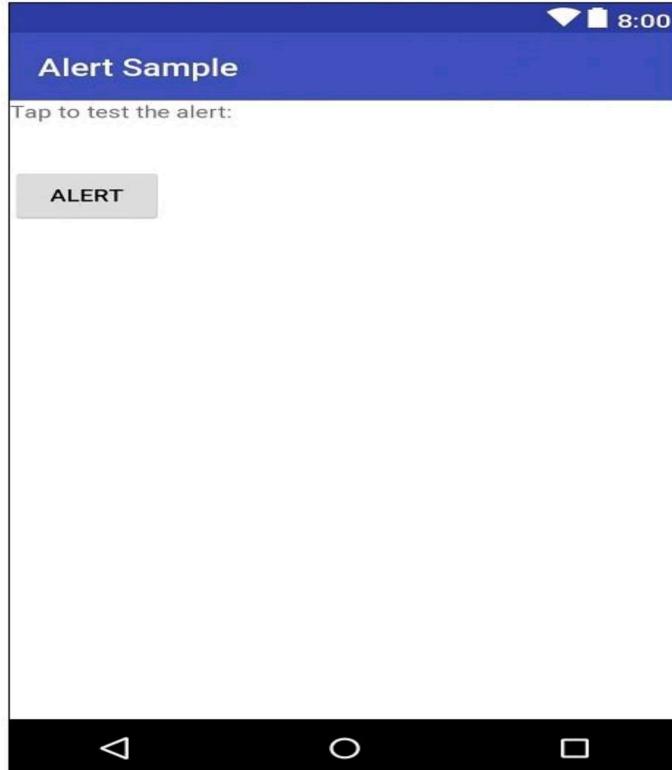
Toast.LENGTH_SHORT).show();  

}  });
// Create and show the AlertDialog.  

myAlertBuilder.show();
} }

```

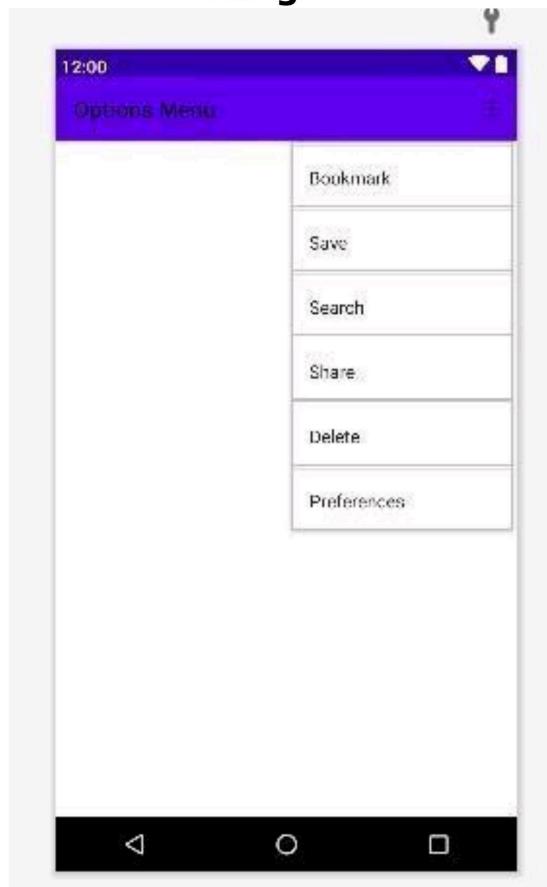
Output:



Practical – 5

Aim: Create an android app that demonstrates the use of an Options Menu.

Design:



Example_menu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/menu_bookmark"
        android:title="@string/bookmark"
        />
    <item android:id="@+id/menu_save"        android:title="@string/save"
        />
    <item android:id="@+id/menu_search"      android:title="@string/search"
        />
    <item android:id="@+id/menu_share"       android:title="@string/share"
        />
```

```
<item android:id="@+id/menu_delete"      android:title="@string/delete"
      />
<item android:id="@+id/menu_preferences"
      android:title="@string/preferences"
      />
</menu>
```

MainActivity.java

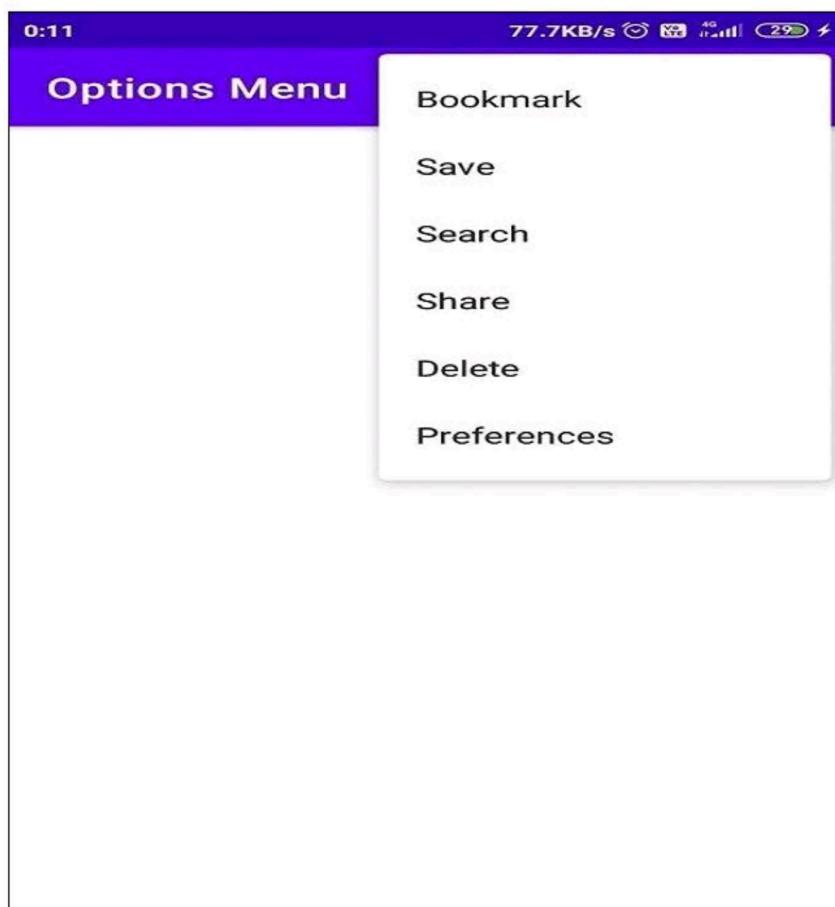
```
package com.example.optionsmenu;

import androidx.appcompat.app.AppCompatActivity;

import android.annotation.SuppressLint; import
android.os.Bundle; import android.view.Menu; 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);
    }
    /* Initiating Menu XML file (menu.xml) */
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater menuInflater = getMenuInflater();
        menuInflater.inflate(R.menu.example_menu, menu);
        return
        true;
    }
    @SuppressLint("NonConstantResourceId")
    @Override    public boolean
    onOptionsItemSelected(MenuItem item)
    {
        Toast.makeText(this,"Selected Item:"+item.getTitle(),
        Toast.LENGTH_SHORT).show();      switch
        (item.getItemId())
    {
        case 0:
```

```
        return true;  
    case 1:  
        return true;  
    case 2:  
        return true;  
    case 3:  
        return true;  
    case 4:  
        return true;  
    case 5:  
        return true;  
    default:  
        return super.onOptionsItemSelected(item);  
    }  
}  
}
```

Output:



Practical – 6:

Aim: Simple Calculator app

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"    android:layout_width="match_parent"
    android:layout_height="match_parent"    android:background="#8BC34A"
    android:backgroundTint="@android:color/darker_gray"
    tools:context=".MainActivity">

    <!-- Text View to display our basic heading of "calculator"-->
<TextView
    android:layout_width="194dp"
    android:layout_height="43dp"
    android:layout_marginStart="114dp"
    android:layout_marginLeft="114dp"
    android:layout_marginTop="58dp"
    android:layout_marginEnd="103dp"
    android:layout_marginRight="103dp"
    android:layout_marginBottom="502dp"
    android:scrollbarSize="30dp"           android:text=" Calculator"
    android:textAppearance="@style/TextAppearance.AppCompat.Body1"
    android:textSize="30dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

    <!-- Edit Text View to input the values -->
<EditText    android:id="@+id/num1"
    android:layout_width="364dp"
    android:layout_height="28dp"    android:layout_marginStart="72dp"
    android:layout_marginTop="70dp"    android:layout_marginEnd="71dp"
    android:layout_marginBottom="416dp"
    android:background="@android:color/white"           android:ems="10"
    android:hint="Number1(0)"
    android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
```

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

```
<!-- Edit Text View to input 2nd value-->
```

```
<EditText
```

```
    android:id="@+id/num2"    android:layout_width="363dp"        android:layout_height="30dp"
    android:layout_marginStart="72dp"    android:layout_marginTop="112dp"
    android:layout_marginEnd="71dp"    android:layout_marginBottom="374dp"
    android:background="@android:color/white"            android:ems="10"
    android:hint="number2(0)"        android:inputType="number"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
/>
```

```
<!-- Text View to display result -->
```

```
<TextView    android:id="@+id/result"    android:layout_width="356dp"
    android:layout_height="71dp"    android:layout_marginStart="41dp"
    android:layout_marginTop="151dp"    android:layout_marginEnd="48dp"
    android:layout_marginBottom="287dp"
    android:background="@android:color/white"
        android:text="result" android:textColorLink="#673AB7"
    android:textSize="25sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<!-- A button to perform 'sum' operation -->
```

```
<Button          android:id="@+id/sum"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="307dp"
```

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

    android:layout_marginBottom="263dp"
        android:backgroundTint="@android:color/holo_red_light"
            android:onClick="doSum"      android:text="+"
    app:layout_constraintBottom_toBottomOf="parent"
```

<!-- A button to perform subtraction operation. -->

```
<Button          android:id="@+id/sub"
    android:layout_width="wrap_content" android:layout_height="wrap_content"
    android:layout_marginStart="210dp"      android:layout_marginTop="292dp"
    android:layout_marginEnd="113dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doSub"          android:text="-"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<!-- A button to perform division. -->

```
<Button android:id="@+id/div"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="307dp"
    android:layout_marginTop="292dp"
    android:layout_marginEnd="16dp"
    android:layout_marginBottom="263dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doDiv"          android:text="/"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0" app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

<!-- A button to perform multiplication. -->

```

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

    <Button android:id="@+id/mul"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="356dp"
    android:layout_marginEnd="307dp"
    android:layout_marginBottom="199dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doMul"           android:text="x"
    app:layout_constraintBottom_toBottomOf="parent"

<!-- A button to perform a modulus function. -->
    <Button android:id="@+id/button"    android:layout_width="92dp"

    android:layout_height="48dp"          android:layout_marginStart="113dp"
    android:layout_marginTop="356dp"       android:layout_marginEnd="206dp"
    android:layout_marginBottom="199dp"
    android:backgroundTint="@android:color/holo_red_light"
    android:onClick="doMod"   android:text="%(%mod)"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

```

```
EditText e1, e2;
TextView t1;
int num1, num2;

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

// a public method to get the input numbers  public boolean getNumbers()
{
    // defining the edit text 1 to e1
e1 = (EditText) findViewById(R.id.num1); // defining the edit text 2 to e2
    e2 = (EditText) findViewById(R.id.num2);
    // defining the text view to t1
t1 = (TextView) findViewById(R.id.result);

    // taking input from text box 1
String s1 = e1.getText().toString();

    // taking input from text box 2
String s2 = e2.getText().toString();

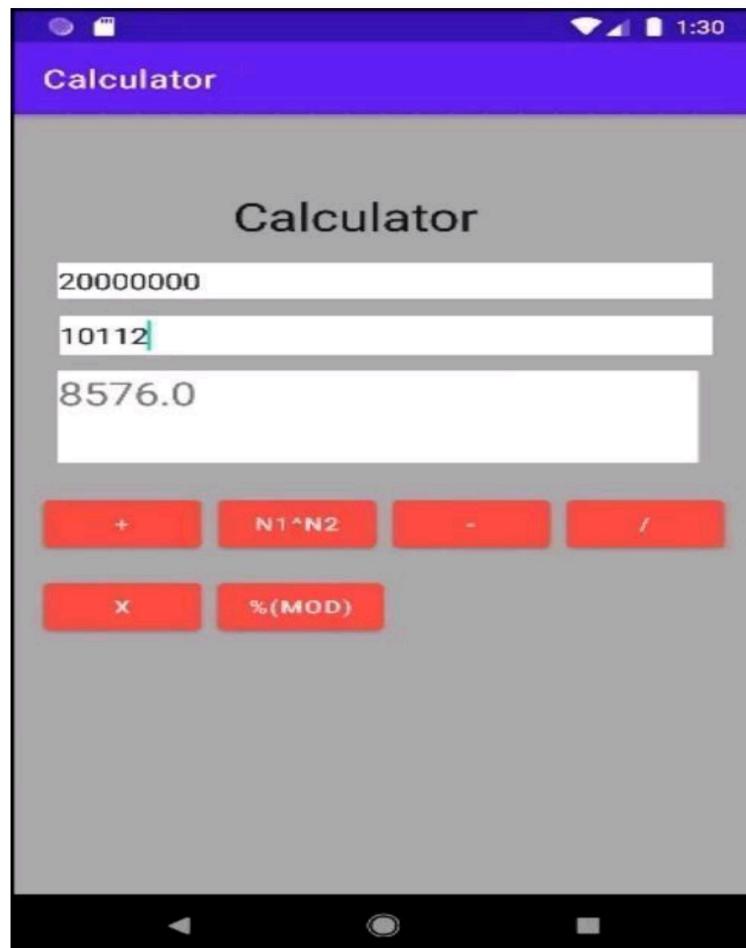
    // condition to check if box is not empty
if ((s1.equals(null) && s2.equals(null))
    || (s1.equals("") && s2.equals("")))) {

String result = "Please enter a value";
t1.setText(result);

return false;
}
else {
    // converting string to int.
num1 = Integer.parseInt(s1);
```

```
// converting string to int.  
num2 = Integer.parseInt(s2); }  
return true;  
}  
  
// a public method to perform addition  
public void doSum(View v) {  
  
    // get the input numbers  
    if (getNumbers()) {  
        int sum = num1 + num2;  
        t1.setText(Integer.toString(sum));  
    }  
}  
  
// a public method to perform subtraction  
public void doSub(View v) {  
    // get the input numbers  
    if (getNumbers()) {  
        int sum = num1 - num2;  
        t1.setText(Integer.toString(sum));  
    }  
}  
  
// a public method to perform multiplication  
public void doMul(View v) {  
  
    // get the input numbers  
    if  
(getNumbers()) {  
        int sum = num1 * num2;  
        t1.setText(Integer.toString(sum));  
    }  
}  
  
// a public method to perform Division  
public void doDiv(View v) {  
  
    // get the input numbers
```

```
if (getNumbers()) {  
  
    // displaying the text in text view assigned as t1  
    double sum = num1 / (num2 * 1.0);  
    t1.setText(Double.toString(sum));  
}  
}  
  
// a public method to perform modulus function  public  
void doMod(View v) {  
  
    // get the input numbers  
    if (getNumbers()) {  
        double sum = num1 % num2;  
        t1.setText(Double.toString(sum));  
    }  
}
```



VPM's B. N. Bandodkar College of Science (Autonomous), Thane.

Department of Information Technology

Course Code - BNBUSIT6P6

Course Name — Advanced Mobile Programming Practical

Sr. No.	Practical Aim	Date	Teacher's Sign
Practical - 1	Create an android app to run Hello World Program.		
Practical - 2	Create an android app that demonstrates working with TextView Elements.		
Practical - 3	Create an android app that demonstrates Activity Lifecycle.		
Practical - 4	Create android app that demonstrates the use of Alert.		
Practical - 5	Create an android app that demonstrates the use of an Options Menu.		
Practical - 6	Simple Calculator app.		