

Android Programs Link

<https://slipsolver.com/B.SC/fyslip/searchquestion/python.php>

Java Android Program to Demonstrate Alert Dialog Box

MainActivity.java

```
package com.example.alerdialog;

import android.os.Bundle;
import android.app.Activity;
import android.app.AlertDialog;
import android.view.Menu;
import android.view.View;
import android.widget.Button;

public class MainActivity extends Activity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button but = (Button) findViewById(R.id.button);
        but.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                // TODO Auto-generated method stub

                // Create an alert dialog box

                AlertDialog.Builder builder = new AlertDialog.Builder(

                    MainActivity.this);

                // Set alert title

                builder.setTitle(R.string.alerttitle);

                // Set the value for the positive reaction from the user
```

```

        // You can also set a listener to call when it is pressed
        builder.setPositiveButton(R.string.ok, null);

        // The message
        builder.setMessage(R.string.message);

        // Create the alert dialog and display it
        AlertDialog theAlertDialog = builder.create();
        theAlertDialog.show();

    }

    });
}

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

    return true;
}
}

```

ActivityMain.xml

```

<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"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity" >

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

```

```
android:layout_height="wrap_content"  
android:layout_alignParentLeft="true"  
android:layout_alignParentRight="true"  
android:layout_centerVertical="true"  
android:text="SHOW DIALOG" />
```

```
</RelativeLayout>
```

Output:



Create a Simple Application Which Shows Life Cycle of Activity.

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.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 com.example.activity_life;

import android.annotation.SuppressLint;
import android.app.Activity;
import android.os.Bundle;
import android.widget.Toast;

@SuppressLint("NewApi")
public class MainActivity extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```
    super.onCreate(savedInstanceState);  
    notify("onCreate");  
}  
  
@Override  
protected void onPause() {  
    super.onPause();  
    notify("onPause");  
}  
  
@Override  
protected void onResume() {  
    super.onResume();  
    notify("onResume");  
}  
  
@Override  
protected void onStop() {  
    super.onStop();  
    notify("onStop");  
}  
  
@Override  
protected void onDestroy() {  
    super.onDestroy();  
    notify("onDestroy");  
}  
  
@Override  
protected void onRestoreInstanceState(Bundle savedInstanceState) {  
    super.onRestoreInstanceState(savedInstanceState);  
    notify("onRestoreInstanceState");  
}  
  
@Override  
protected void onSaveInstanceState(Bundle outState) {  
    super.onSaveInstanceState(outState);
```

```
        notify("onSaveInstanceState");
    }

    private void notify(String methodName) {
        String name = this.getClass().getName();
        String[] strings = name.split("\\.");
        Toast.makeText(getApplicationContext(),
            methodName + "" + strings[strings.length - 1],
            Toast.LENGTH_LONG).show();
    }

}
```

Output:



05:51



activity_life

onCreateMainActivity



05:51



activity_life

onResumeMainActivity



05:53



onDestroyMainActivity



Phone



Contacts



Messaging



Internet



Apps

Create the simple calculator shown below also perform appropriate operation

ActivityMain.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 "gfg_myFirstApp" -->

    <TextView

        android:id="@+id/textView"
        android:layout_width="133dp"
        android:layout_height="28dp"
        android:layout_marginStart="139dp"
        android:layout_marginLeft="139dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="139dp"
        android:layout_marginRight="139dp"
        android:layout_marginBottom="559dp"

        <!-- providing the green colour to the background -->

        android:background="#0F9D58"

        android:text="gfg_myFirstApp"
        android:textAppearance="@style/TextAppearance.AppCompat.Medium"
        app:layout_constraintBottom_toBottomOf="parent"
```

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

<!-- 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"
android:layout_marginBottom="263dp"
android:backgroundTint="@android:color/holo_red_light"
android:onClick="doSum"
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 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. -->

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

<!-- A button to perform a power function. -->

<Button

```
android:id="@+id/pow"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="113dp"
android:layout_marginTop="292dp"
android:layout_marginEnd="210dp"
android:layout_marginBottom="263dp"
android:backgroundTint="@android:color/holo_red_light"
android:onClick="doPow"
android:text="n1^n2"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

ActivityMain.java

```
package com.example.gfg_my_first_app;

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

```
import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;


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
s1 = e1.getText().toString();

// taking input from text box 2
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(e1.getText().toString());

    // converting string to int.
    num2 = Integer.parseInt(e2.getText().toString());
}

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 power function
```

```
public void doPow(View v)
```

```
{
```

```
    // get the input numbers
```

```
    if (getNumbers()) {
```

```
        double sum = Math.pow(num1, num2);
```

```
        t1.setText(Double.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
```

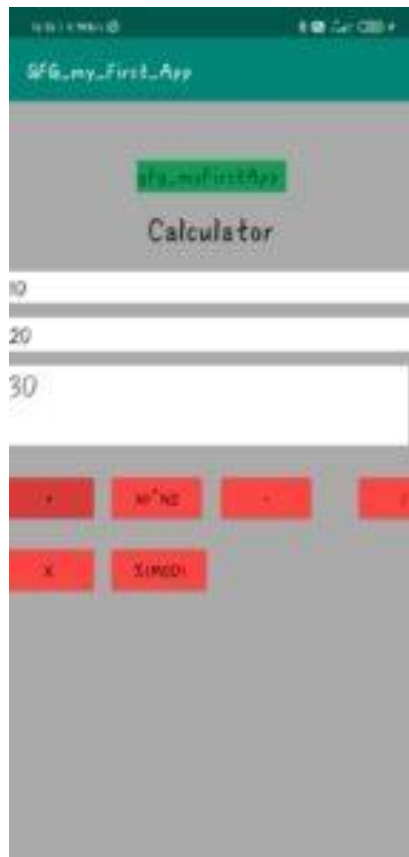
```

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));
    }
}
}

```

Output:

- Performing the addition operation.



Java Android Program to demonstrate login form with validation.

MainActivity.java.

```
package com.example.sairamkrishna.myapplication;

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

public class MainActivity extends Activity {
```

```
Button b1,b2;
```

```
EditText ed1,ed2;
```

```
TextView tx1;
```

```
int counter = 3;
```

```
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
```

```
    super.onCreate(savedInstanceState);
```

```
    setContentView(R.layout.activity_main);
```

```
    b1 = (Button)findViewById(R.id.button);
```

```
    ed1 = (EditText)findViewById(R.id.editText);
```

```
    ed2 = (EditText)findViewById(R.id.editText2);
```

```
    b2 = (Button)findViewById(R.id.button2);
```

```
    tx1 = (TextView)findViewById(R.id.textView3);
```

```
    tx1.setVisibility(View.GONE);
```

```
    b1.setOnClickListener(new View.OnClickListener() {
```

```
        @Override
```

```
        public void onClick(View v) {
```

```
            if(ed1.getText().toString().equals("admin") &&
```

```
                ed2.getText().toString().equals("admin")) {
```

```
                Toast.makeText(getApplicationContext(),
```

```
                    "Redirecting...",Toast.LENGTH_SHORT).show();
```

```
            }else{
```

```
                Toast.makeText(getApplicationContext(), "Wrong
```

```
                    Credentials",Toast.LENGTH_SHORT).show();
```

```
                tx1.setVisibility(View.VISIBLE);
```

```

        tx1.setBackgroundColor(Color.RED);

        counter--;

        tx1.setText(Integer.toString(counter));

        if (counter == 0) {
            b1.setEnabled(false);
        }
    }
}

});

b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        finish();
    }
});
}
}

```

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" android:paddingLeft= "@dimen/activity_horizontal_margin"
    android:paddingRight = "@dimen/activity_horizontal_margin"
    android:paddingTop = "@dimen/activity_vertical_margin"
    android:paddingBottom = "@dimen/activity_vertical_margin" tools:context = ".MainActivity">

    <TextView android:text = "Login" android:layout_width="wrap_content"
        android:layout_height = "wrap_content"

```



```
android:id="@+id/textview"
android:textSize="35dp"
android:layout_alignParentTop="true"
android:layout_centerHorizontal="true" />
```

<TextView

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Tutorials point"
android:id="@+id/textView"
android:layout_below="@+id/textview"
android:layout_centerHorizontal="true"
android:textColor="#ff7aff24"
android:textSize="35dp" />
```

<EditText

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/editText"
android:hint="Enter Name"
android:focusable="true"
android:textColorHighlight="#ff7eff15"
android:textColorHint="#ffff25e6"
android:layout_marginTop="46dp"
android:layout_below="@+id/imageView"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true"
android:layout_alignParentRight="true"
android:layout_alignParentEnd="true" />
```

<ImageView

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/imageView"
android:src="@drawable/abc"
android:layout_below="@+id/textView"
android:layout_centerHorizontal="true" />
```

<EditText

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:inputType="textPassword"
android:ems="10"
android:id="@+id/editText2"
android:layout_below="@+id/editText"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true"
android:layout_alignRight="@+id/editText"
android:layout_alignEnd="@+id/editText"
android:textColorHint="#ffff299f"
android:hint="Password" />
```

<TextView

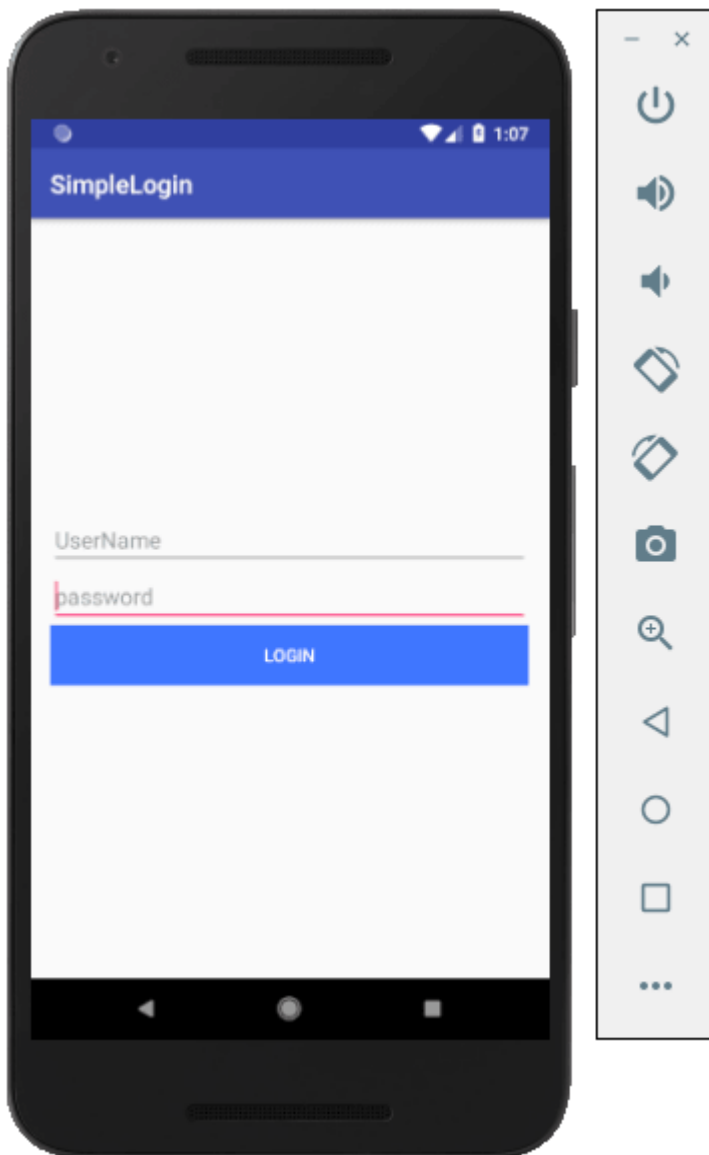
```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Attempts Left:"
android:id="@+id/textView2"
android:layout_below="@+id/editText2"
android:layout_alignParentLeft="true"
android:layout_alignParentStart="true"
android:textSize="25dp" />
```

```
<TextView  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="New Text"  
    android:id="@+id/textView3"  
    android:layout_alignTop="@+id/textView2"  
    android:layout_alignParentRight="true"  
    android:layout_alignParentEnd="true"  
    android:layout_alignBottom="@+id/textView2"  
    android:layout_toEndOf="@+id/textview"  
    android:textSize="25dp"  
    android:layout_toRightOf="@+id/textview" />
```

```
<Button  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="login"  
    android:id="@+id/button"  
    android:layout_alignParentBottom="true"  
    android:layout_toLeftOf="@+id/textview"  
    android:layout_toStartOf="@+id/textview" />
```

```
<Button  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Cancel"  
    android:id="@+id/button2"  
    android:layout_alignParentBottom="true"  
    android:layout_toRightOf="@+id/textview"  
    android:layout_toEndOf="@+id/textview" />
```

</RelativeLayout>



Construct image switcher using setFactory().

activity_main.xml

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

<android.support.design.widget.CoordinatorLayout 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:fitsSystemWindows="true"
tools:context="com.example.test.imageswitcher.MainActivity">
```

```
<android.support.design.widget.AppBarLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:theme="@style/AppTheme.AppBarOverlay">
```

```
<android.support.v7.widget.Toolbar
    android:id="@+id/toolbar"
    android:layout_width="match_parent"
    android:layout_height="?attr/actionBarSize"
    android:background="?attr/colorPrimary"
    app:popupTheme="@style/AppTheme.PopupOverlay" />
```

```
</android.support.design.widget.AppBarLayout>
<include layout="@layout/content_main" />
```

```
</android.support.design.widget.CoordinatorLayout>
```

MainActivity.java

```
package com.example.test.imageswitcher;

import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;
import android.support.v7.widget.Toolbar;
import android.view.View;
import android.widget.Button;
import android.widget.ImageSwitcher;
import android.widget.ImageView;
```

```
import android.widget.ViewSwitcher;
```

```
import android.app.ActionBar;
```

```
import android.view.animation.Animation;
```

```
import android.view.animation.AnimationUtils;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    ImageSwitcher imageSwitcher;
```

```
    Button nextButton;
```

```
    int imageSwitcherImages[] =
```

```
        {R.drawable.cpp, R.drawable.c_sarp, R.drawable.jsp, R.drawable.mysql, R.drawable.hadoop};
```

```
    int switcherImageLength = imageSwitcherImages.length;
```

```
    int counter = -1;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        Toolbar toolbar = (Toolbar) findViewById(R.id.toolbar);
```

```
        setSupportActionBar(toolbar);
```

```
        imageSwitcher = (ImageSwitcher) findViewById(R.id.imageSwitcher);
```

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

```
        imageSwitcher.setFactory(new ViewSwitcher.ViewFactory() {
```

```
            @Override
```

```
            public View makeView() {
```

```
                ImageView switcherImageView = new ImageView(getApplicationContext());
```

```

switcherImageView.setLayoutParams(new ImageSwitcher.LayoutParams(
    ActionBar.LayoutParams.FILL_PARENT, ActionBar.LayoutParams.FILL_PARENT
));
switcherImageView.setScaleType(ImageView.ScaleType.FIT_CENTER);
switcherImageView.setImageResource(R.drawable.hadoop);
//switcherImageView.setMaxHeight(100);
return switcherImageView;
}
});

```

```

Animation aniOut = AnimationUtils.loadAnimation(this, android.R.anim.slide_out_right);
Animation aniIn = AnimationUtils.loadAnimation(this, android.R.anim.slide_in_left);

```

```

imageSwitcher.setOutAnimation(aniOut);
imageSwitcher.setInAnimation(aniIn);

```

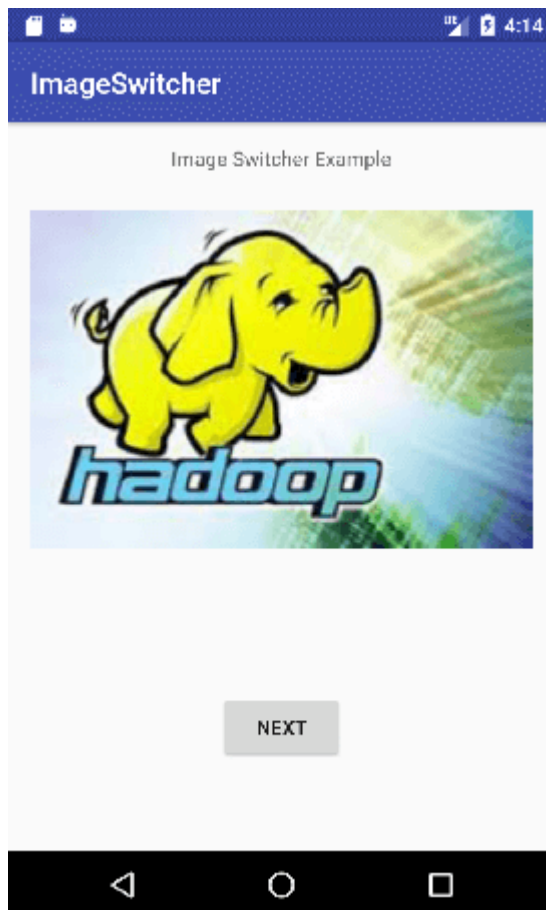
```

nextButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        counter++;
        if (counter == switcherImageLength){
            counter = 0;
            imageSwitcher.setImageResource(imageSwitcherImages[counter]);
        }
        else{
            imageSwitcher.setImageResource(imageSwitcherImages[counter]);
        }
    }
});
}

```

```
}
```

Output





create application toggle a light bulb on and off when the user clicks on toggle button

activity.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<module external.linked.project.id="toggles6q1" external.linked.project.path="$MODULE_DIR$"
external.root.project.path="$MODULE_DIR$" external.system.id="GRADLE" type="JAVA_MODULE" version="4">
  <component name="FacetManager">
    <facet type="java-gradle" name="Java-Gradle">
      <configuration>
        <option name="BUILD_FOLDER_PATH" value="$MODULE_DIR$/build" />
        <option name="BUILDABLE" value="false" />
      </configuration>
    </facet>
  </component>
```

```
<component name="NewModuleRootManager" LANGUAGE_LEVEL="JDK_1_7" inherit-compiler-output="true">
  <exclude-output />
  <content url="file://$MODULE_DIR$">
    <excludeFolder url="file://$MODULE_DIR$/.gradle" />
    <excludeFolder url="file://$MODULE_DIR$/build" />
  </content>
  <orderEntry type="jdk" jdkName="1.8" jdkType="JavaSDK" />
  <orderEntry type="sourceFolder" forTests="false" />
</component>
</module>
```

=====

activity.java

```
package com.example.toggles6q1;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import android.widget.ToggleButton;

public class MainActivity extends AppCompatActivity {
    private ToggleButton toggleButton1, toggleButton2;
    private Button buttonSubmit;

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

    public void addListenerOnButtonClick(){
```

```

toggleButton1=(ToggleButton) findViewById(R.id.toggleButton);
toggleButton2=(ToggleButton)findViewById(R.id.toggleButton2);
buttonSubmit=(Button)findViewById(R.id.button);
buttonSubmit.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View view) {
        StringBuilder result = new StringBuilder();
        result.append("ToggleButton1 : ").append(toggleButton1.getText());
        result.append("
ToggleButton2 : ").append(toggleButton2.getText());
        //Displaying the message in toast
        Toast.makeText(getApplicationContext(), result.toString(),Toast.LENGTH_LONG).show();
    }

});

}

}

```

By using spinner button. Write a program to draw following GUI

//activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<TableLayout
    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">
    <TableRow>
    <TextView

```

```
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Enter items:"
android:textSize="25dp"
android:layout_marginTop="15dp"
tools:layout_editor_absoluteX="27dp"
tools:layout_editor_absoluteY="64dp"
/>
```

```
<EditText
    android:id="@+id/editText2"
    android:layout_width="294dp"
    android:layout_height="58dp"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Apple"
    android:layout_marginTop="15dp"
    android:textAlignment="gravity"
    tools:layout_editor_absoluteX="16dp"
    tools:layout_editor_absoluteY="121dp"
    tools:layout_marginLeft="1dp" />
```

```
</TableRow>
```

```
<TableRow>
```

```
<EditText
    android:id="@+id/editText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:inputType="textPersonName"
    android:text="Add to spinner"
    android:layout_marginTop="15dp"
```

```
        android:textAlignment="center"
        tools:layout_editor_absoluteX="98dp"
        tools:layout_editor_absoluteY="49dp" />
    <EditText
        android:id="@+id/editText3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="textPersonName"
        android:text="Remove from spinner"
        android:layout_marginTop="15dp"
        android:textAlignment="gravity"
        tools:layout_editor_absoluteX="98dp"
        tools:layout_editor_absoluteY="49dp" />
</TableRow>
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="See Response Below"
    android:textSize="20dp"
    android:layout_marginTop="100dp"
    tools:layout_editor_absoluteX="16dp"
    tools:layout_editor_absoluteY="228dp" />
<Spinner
    android:id="@+id/spinner"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="Apple"
    android:layout_marginTop="25dp"
    android:textAlignment="center" />
```

```
</TableLayout>
```

```
//Mainactivitiy.java
```

```
import android.os.Bundle;
```

```
import android.app.Activity;
```

```
import android.view.View;
```

```
import android.widget.AdapterView;
```

```
import android.widget.AdapterView;
```

```
import android.widget.AdapterView;
```

```
import android.widget.AdapterView;
```

```
import java.util.ArrayList;
```

```
import java.util.List;
```

```
public class MainActivity extends Activity implements AdapterView.OnItemClickListener {
```

```
    @Override
```

```
    public void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);
```

```
        // Spinner element
```

```
        final Spinner spinner = (Spinner) findViewById(R.id.spinner);
```

```
        // Spinner click listener
```

```
        spinner.setOnItemClickListener(this);
```

```
        // Spinner Drop down elements
```

```
        List<String> categories = new ArrayList<String>();
```

```
        categories.add("Apple");
```

```
        categories.add("mango");
```

```
        categories.add("Banana");
```

```
        categories.add("Orange");
```

```
        categories.add("Graps");
```

```
        categories.add("Lemons");
```

```
        // Creating adapter for spinner
```

```

    ArrayAdapter<String> dataAdapter = new ArrayAdapter<String>(this, android.R.layout.simple_spinner_item,
categories);

    // Drop down layout style - list view with radio button
    dataAdapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);

    // attaching data adapter to spinner
    spinner.setAdapter(dataAdapter);
}

```

```

@Override

public void onItemSelected(AdapterView<?> parent, View view, int position, long id) {

    // On selecting a spinner item
    String item = parent.getItemAtPosition(position).toString();


    // Showing selected spinner item
    Toast.makeText(parent.getContext(), "Selected: " + item, Toast.LENGTH_LONG).show();
}

public void onNothingSelected(AdapterView<?> arg0) {

    // TODO Auto-generated method stub

}
}

```

Create a Simple Android Application Which Send —Hello|| message from one activity to another with help of Button

Activity_main.xml code

```

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

<LinearLayout 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:orientation="vertical"

    >

```

```

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/message_text"
    android:hint="@string/your_message"
/>

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:hint="@string/button_text"
    android:onClick="sendMessage"
/>

</LinearLayout>

```

MainActivity.java

```

package Helloworld.senddata;

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 {

    EditText message_text;

    public final static String MESSAGE_KEY = "Helloworld.senddata.message_key";

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    public void sendMessage (View view)
    {
        message_text = (EditText) findViewById(R.id.message_text);
        String message = message_text.getText().toString();
    }
}

```



```

        Intent intent= new Intent(this ,SecondActivity.class);

        intent.putExtra(MESSAGE_KEY,message);

        startActivity(intent);

    }}

```

Write a Swift program to change the first and last character of a given string.

[Online compiler for swift https://www.onlinegdb.com/online_swift_compiler]

```

func exchangeCh(_ typeWord:String)-> String{
    var str = typeWord
    // Get first and last character
    let firstCharacter = String(str.prefix(1))
    let LastCharacter = String(str.suffix(1))
    // Convert string to character
    let firstCharacter2 = Character(firstCharacter)
    let LastCharacter2 = Character(LastCharacter)
    // Remove first and last characters
    str.removeFirst()
    str.removeLast()
    // Insert first and last characters
    str.insert(LastCharacter2, at: (str.startIndex))
    str.insert(firstCharacter2, at: (str.endIndex))
    return str
}
print(exchangeCh("Hello"))

```

output

oellH

Create a Notification in Android and display the notification message on second 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.androidnotification.MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ANDROID NOTIFICATION"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.091"
        android:textAppearance="@style/Base.TextAppearance.AppCompat.Medium"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/button"
        android:layout_marginBottom="112dp"
        android:layout_marginEnd="8dp"
        android:layout_marginStart="8dp"
        android:text="Notify"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent" />

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

Mainactivity.java

```
package example.javatpoint.com.androidnotification;

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

public class MainActivity extends AppCompatActivity {

    Button button;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button = findViewById(R.id.button);
        button.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                addNotification();

            }

        });
    }

    private void addNotification() {

        NotificationCompat.Builder builder =

            new NotificationCompat.Builder(this)
```

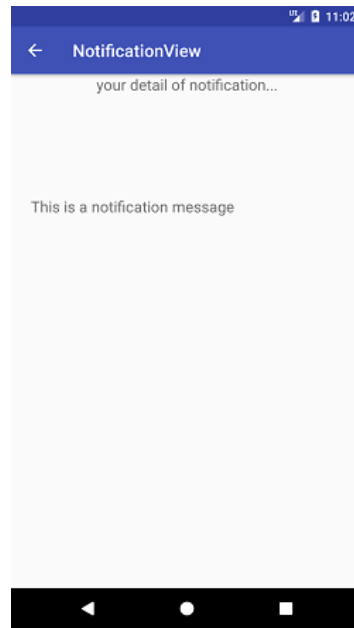
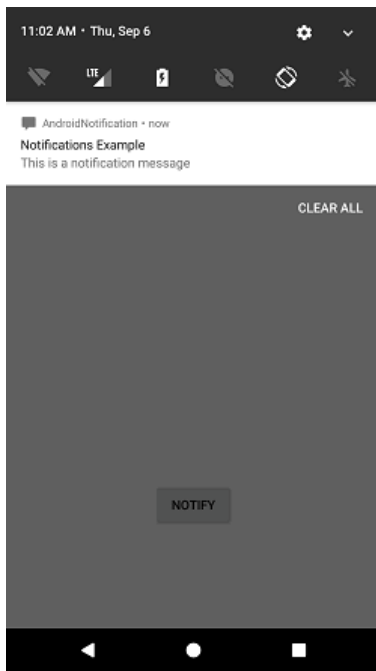
```
.setSmallIcon(R.drawable.messageicon) //set icon for notification
.setContentTitle("Notifications Example") //set title of notification
.setContentText("This is a notification message")//this is notification message
.setAutoCancel(true) // makes auto cancel of notification
.setPriority(NotificationCompat.PRIORITY_DEFAULT); //set priority of notification
```

```
Intent notificationIntent = new Intent(this, NotificationView.class);
notificationIntent.addFlags(Intent.FLAG_ACTIVITY_CLEAR_TOP);
//notification message will get at NotificationView
notificationIntent.putExtra("message", "This is a notification message");
```

```
PendingIntent pendingIntent = PendingIntent.getActivity(this, 0, notificationIntent,
    PendingIntent.FLAG_UPDATE_CURRENT);
builder.setContentIntent(pendingIntent);
```

```
// Add as notification
```

```
NotificationManager manager = (NotificationManager) getSystemService(Context.NOTIFICATION_SERVICE);
manager.notify(0, builder.build());
}
}
```



Write a Swift program that accept two integer values and return true if one of them is 20 or if their sum is 20.

```
func make_20(x: Int, y: Int) -> Bool {
    if x + y == 20 || x == 20 || y == 20
    {
        return true
    }
    else
    {
        return false
    }
}

print(make_20(x: 29, y: 10))
print(make_20(x: 20, y: 17))
print(make_20(x: 11, y: 9))
```

output:-

false

true

true

Create an Android Application to display satellite view of current location using Google Map.

activity_maps.xml

```
<fragment xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:map="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/map"
    android:name="com.google.android.gms.maps.SupportMapFragment"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="example.com.mapexample.MapsActivity" />
```

MapsActivity.java

```
package example.com.mapexample;
import android.support.v4.app.FragmentActivity;
import android.os.Bundle;
import com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;
public class MapsActivity extends FragmentActivity implements OnMapReadyCallback{
    private GoogleMap mMap;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_maps);
        // Obtain the SupportMapFragment and get notified when the map is ready to be used.
        SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager()
            .findFragmentById(R.id.map);
        mapFragment.getMapAsync(this);
    }

    @Override
    public void onMapReady(GoogleMap googleMap) {
        mMap = googleMap;
```

```
// Add a marker in Sydney and move the camera
LatLng sydney = new LatLng(-34, 151);
mMap.addMarker(new MarkerOptions().position(sydney).title("Marker in Sydney"));
mMap.moveCamera(CameraUpdateFactory.newLatLng(sydney));

}
}
```



Write an Android program to perform Zoom In, Zoom Out operation and display Satellite view, on Google Map.

main.xml

```
<?xml version="1.0" encoding="UTF-8"?>
<fragment map:uiZoomControls="true" tools:context=".MapsActivity"
android:layout_height="match_parent"
android:layout_width="match_parent"
android:name="com.google.android.gms.maps.SupportMapFragment"
android:id="@+id/map" xmlns:tools="http://schemas.android.com/tools"
xmlns:map="http://schemas.android.com/apk/res-auto"
xmlns:android="http://schemas.android.com/apk/res/android"/>
```

Mainactivity.java

```
package com.example.slip1-q2;

import android.support.v4.app.FragmentActivity;
import android.os.Bundle;
import android.view.KeyEvent;
```

```
import com.google.android.gms.maps.CameraUpdate;
import com.google.android.gms.maps.CameraUpdateFactory;
import com.google.android.gms.maps.GoogleMap;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;
```

```
public class MapsActivity extends FragmentActivity implements OnMapReadyCallback {
```

```
    private GoogleMap mMap;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_maps);
```

```
        // Obtain the SupportMapFragment and get notified when the map is ready to be used.
```

```
        SupportMapFragment mapFragment = (SupportMapFragment) getSupportFragmentManager()
            .findFragmentById(R.id.map);
```

```
        mapFragment.getMapAsync(this);
```

```
    }
```

```
    /**
```

```
     * Manipulates the map once available.
```

```
     * This callback is triggered when the map is ready to be used.
```

```
     * This is where we can add markers or lines, add listeners or move the camera. In this case,
```

```
     * we just add a marker near Sydney, Australia.
```

```
     * If Google Play services is not installed on the device, the user will be prompted to install
```

```
     * it inside the SupportMapFragment. This method will only be triggered once the user has
```

```
     * installed Google Play services and returned to the app.
```

```
     */
```

```
    @Override
```

```
    public void onMapReady(GoogleMap googleMap) {
```

```
        mMap = googleMap;
```

```
        // Add a marker in Sydney and move the camera
```

```
        LatLng sydney = new LatLng(-34, 151);
```

```
        mMap.addMarker(new MarkerOptions().position(sydney).title("Marker in Sydney"));
```

```
        mMap.moveCamera(CameraUpdateFactory.newLatLng(sydney));
```

```
    }
```

```
    @Override
```

```
    public boolean onKeyDown(int keyCode, KeyEvent event) {
```

```
        {
```

```
            switch (keyCode) {
```



```

        case KeyEvent.KEYCODE_3:
            mMap.animateCamera(CameraUpdateFactory.zoomOut());
            break;
        case KeyEvent.KEYCODE_1:
            mMap.animateCamera(CameraUpdateFactory.zoomIn());
            break;
    }
    return super.onKeyDown(keyCode, event);
}

}
}

```

Write a Swift program to create a new string where all the character "a" have been removed except the first and last positions.

```

import Foundation
func string_a(_ input: String) -> String {
    var chars = input
    let index_start = chars.index(after: chars.startIndex)
    let index_end = chars.index(before: chars.endIndex)
    let middleRange = index_start ..< index_end

    var sub_string = chars.substring(with: middleRange)

    while sub_string.characters.contains("a") {
        sub_string.remove(at: sub_string.characters.index(of: "a")!)
    }

    chars.replaceSubrange(middleRange, with: sub_string)

    return String(chars)
}

print(string_a("abcd"))
print(string_a("abcda"))
print(string_a("aabcdaa"))
print(string_a("aabaaaacdaa"))

```

Copy

Sample Output:

abcd
abcda
abcda
abcda

Construct an Android application to accept a number and calculate Armstrong and Perfect number of a given number using Menu.

Main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:background="@color/teal_200">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Armstrong Number or Not"
        android:textColor="@color/black"
        android:textSize="26sp"
        app:layout_constraintBottom_toTopOf="@+id/textView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.491" />

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter a number to check Armstrong Number"
        android:textColor="@color/black"
        android:textSize="18sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintHorizontal_bias="0.494"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.4" />

    <EditText
```

```

    android:id="@+id/etNum"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp"
    android:hint="ENTER THE NUMBER"
    android:inputType="number"
    app:layout_constraintEnd_toEndOf="@+id/textView"
    app:layout_constraintStart_toStartOf="@+id/textView"
    app:layout_constraintTop_toBottomOf="@+id/textView" />

```

```

<Button
    android:id="@+id/btnCheck"
    android:layout_width="149dp"
    android:layout_height="50dp"
    android:layout_margin="10dp"
    android:layout_marginTop="16dp"
    android:backgroundTint="@color/black"
    android:text="Check"
    android:textColor="@color/teal_700"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="@+id/etNum"
    app:layout_constraintHorizontal_bias="0.496"
    app:layout_constraintStart_toStartOf="@+id/etNum"
    app:layout_constraintTop_toBottomOf="@+id/etNum"
    app:layout_constraintVertical_bias="0.113" />

```

```

</androidx.constraintlayout.widget.ConstraintLayout>
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.Toast
import java.lang.Math.pow
import kotlin.math.pow

```

mainactivity.java

```

class MainActivity : AppCompatActivity() {
    lateinit var btnCheck : Button
    lateinit var etNum : EditText

    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        supportActionBar?.hide()
    }
}

```

```

// Binding the views
btnCheck = findViewById(R.id.btnCheck)
etNum = findViewById(R.id.etNum)

btnCheck.setOnClickListener {
    val n = etNum.text.toString().length
    val num = etNum.text.toString().toInt()
    var temp = num
    var result = 0

    while (temp != 0){
        val remainder = temp % 10

        result += (remainder.toDouble().pow(n.toDouble())).toInt()

        temp /= 10
    }
    if (result == num)
        Toast.makeText(this,"Armstrong Number",Toast.LENGTH_SHORT).show()
    else
        Toast.makeText(this,"Not an Armstrong Number",Toast.LENGTH_SHORT).show()
    }
}
}

```

Write an Android Application to send Email.

activity_main.xml

```

<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical" >

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Sending Mail Example"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:textSize="30dp" />

    <TextView
        android:id="@+id/textView2"

```

```
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="mail"
    android:textColor="#ff87ff09"
    android:textSize="30dp"
    android:layout_above="@+id/imageButton"
    android:layout_alignRight="@+id/imageButton"
    android:layout_alignEnd="@+id/imageButton" />
```

```
<Button
    android:id="@+id/sendEmail"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="compose_email"/>
```

```
</LinearLayout>
```

```
=====
```

```
activitiy.java
```

```
package com.example.movie;
```

```
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.util.Log;
import android.view.Menu;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
```

```
import com.example.mail.R;
```

```
public class MainActivity extends Activity {
    @Override
```

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

```

Button startBtn = (Button) findViewById(R.id.sendEmail);
startBtn.setOnClickListener(new View.OnClickListener() {
    public void onClick(View view) {
        sendEmail();
    }
});
}

```

```

@SuppressLint("LongLogTag")

```

```

protected void sendEmail() {

```

```

    Log.i("Send email", "");

```

```

    String[] TO = {""};

```

```

    String[] CC = {""};

```

```

    Intent emailIntent = new Intent(Intent.ACTION_SEND);

```

```

    emailIntent.setType("text/plain");

```

```

    emailIntent.putExtra(Intent.EXTRA_EMAIL, TO);

```

```

    emailIntent.putExtra(Intent.EXTRA_CC, CC);

```

```

    emailIntent.putExtra(Intent.EXTRA_SUBJECT, "Your subject");

```

```

    emailIntent.putExtra(Intent.EXTRA_TEXT, "Email message goes here");

```

```

    try {

```

```

        startActivity(Intent.createChooser(emailIntent, "Send mail..."));

```

```

        finish();

```

```

        Log.i("Finished sending email...", "");

```

```

    } catch (android.content.ActivityNotFoundException ex) {

```

```

        Toast.makeText(MainActivity.this, "There is no email client installed.",

```

```

        Toast.LENGTH_SHORT).show();

```

```

    }

```

```

}

```

```

}

```

Write a Swift program to find the Factorial of a given Number.

```

func factorial(n: Int) -> Int {

```

```

    var result = 1

```

```

    if(n > 0) {

```

```

        for i in 1...n {

```

```

            result *= i

```

```

        }

```

```

    }

```

```

    return result

```

```

}

```

```
let num = 4
let result = factorial(n: num)
print("\n(num)! = \n(result)")
```

4! = 24

Write an Android Program to Demonstrate Date Picker Dialog in Android

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent" android:layout_height="match_parent">
    <DatePicker
        android:id="@+id/datePicker1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp" />
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/datePicker1"
        android:layout_marginLeft="100dp"
        android:text="Get Date" />
    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/button1"
        android:layout_marginLeft="100dp"
        android:layout_marginTop="10dp"
        android:textStyle="bold"
        android:textSize="18dp"/>
</RelativeLayout>
```

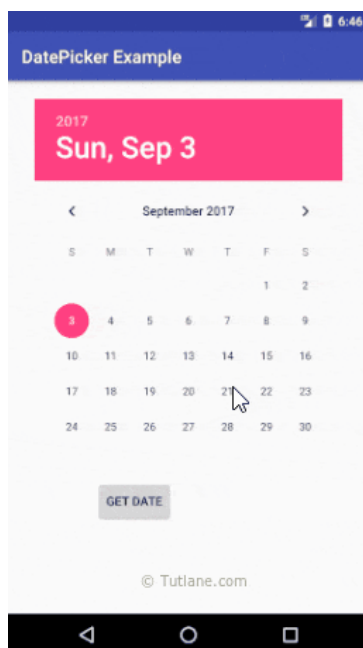
MainActivity.java

```
package com.tutlane.datepickerexample;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.DatePicker;
import android.widget.TextView;
```

```

public class MainActivity extends AppCompatActivity {
    DatePicker picker;
    Button btnGet;
    TextView tvw;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        tvw=(TextView)findViewById(R.id.textView1);
        picker=(DatePicker)findViewById(R.id.datePicker1);
        btnGet=(Button)findViewById(R.id.button1);
        btnGet.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                tvw.setText("Selected Date: "+ picker.getDayOfMonth()+"/"+ (picker.getMonth()
+ 1)+"/"+picker.getYear());
            }
        });
    }
}

```



Android application that will change color of the screen and change the font size of text view using xml.

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/linear_layout_id"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:id="@+id/text_view_id"
        android:layout_height="wrap_content"
        android:layout_width="match_parent"
        android:gravity="center"
        android:textSize="40dp"
        android:padding="50dp"
        android:textColor="#9C27B0"
        android:text="@string/hello" />
</LinearLayout>
```

MainActivity.java

```
package com.tutorialkart.textviewtutorial

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```