Program1

XML-CODE

```
<?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"
android:background="#FFFFFF"
tools:context=".MainActivity">
<TextView
android:id="@+id/textView4"
android:layout width="371dp"
android:layout height="wrap content"
android:layout_alignParentStart="true"
android:layout alignParentLeft="true"
android:layout alignParentEnd="true"
android:layout_alignParentRight="true"
android:layout alignParentBottom="true"
android:layout marginStart="28dp"
android:layout_marginLeft="28dp"
android:layout marginEnd="12dp"
android:layout_marginRight="12dp"
android:layout marginBottom="219dp"
android:text="Address:ASKB Campus, Anandnagar, | Bangalore - 560 024"
android:textAlignment="center"
android:textSize="24sp" />
<TextView
android:id="@+id/textView5"
android:layout width="250dp"
android:layout height="wrap content"
android:layout alignParentStart="true"
android:layout_alignParentLeft="true"
android:layout alignParentEnd="true"
android:layout_alignParentRight="true"
android:layout alignParentBottom="true"
android:layout marginStart="87dp"
android:layout_marginLeft="87dp"
android:layout marginEnd="73dp"
android:layout_marginRight="73dp"
```

```
android:layout marginBottom="157dp"
android:text="Ph No: 9108380566"
android:textAlignment="center"
android:textSize="24sp" />
<TextView
android:id="@+id/textView6"
android:layout width="367dp"
android:layout height="wrap content"
android:layout alignParentStart="true"
android:layout_alignParentLeft="true"
android:layout alignParentEnd="true"
android:layout alignParentRight="true"
android:layout alignParentBottom="true"
android:layout_marginStart="25dp"
android:layout marginLeft="25dp"
android:layout_marginEnd="19dp"
android:layout_marginRight="19dp"
android:layout_marginBottom="64dp"
android:text="Email Id: uzma.sulthana@atria.edu"
android:textAlignment="center"
android:textSize="24sp" />
<TextView
android:id="@+id/textView3"
android:layout width="367dp"
android:layout_height="66dp"
android:layout alignParentStart="true"
android:layout_alignParentLeft="true"
android:layout alignParentEnd="true"
android:layout alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout marginStart="32dp"
android:layout marginLeft="32dp"
android:layout marginEnd="12dp"
android:layout marginRight="12dp"
android:layout marginBottom="287dp"
android:text="Assistant Professor-ISE"
android:textAlignment="center"
android:textSize="24sp" />
<ImageView</pre>
android:id="@+id/imageView3"
android:layout width="155dp"
android:layout_height="98dp"
android:layout alignParentEnd="true"
```

```
android:layout alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="12dp"
android:layout marginRight="12dp"
android:layout marginBottom="495dp"
app:srcCompat="@drawable/aitlogo" />
<View
android:id="@+id/view"
android:layout width="wrap content"
android:layout height="4dp"
android:layout alignParentBottom="true"
android:layout marginBottom="487dp"
android:background="#4444" />
<TextView
android:id="@+id/textView2"
android:layout width="176dp"
android:layout_height="wrap_content"
android:layout_alignParentStart="true"
android:layout_alignParentLeft="true"
android:layout alignParentEnd="true"
android:layout alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout marginStart="95dp"
android:layout marginLeft="95dp"
android:layout_marginEnd="140dp"
android:layout marginRight="140dp"
android:layout marginBottom="401dp"
android:text="Uzma Sulthana"
android:textAlignment="center"
android:textSize="24sp"
android:textStyle="bold" />
<TextView
android:id="@+id/textView7"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentBottom="true"
android:layout marginEnd="99dp"
android:layout marginRight="99dp"
android:layout_marginBottom="495dp"
android:layout toStartOf="@+id/imageView3"
android:layout_toLeftOf="@+id/imageView3"
android:text="AIT"
android:textColor="#E91E63"
```

JAVA-CODE

```
package com.example.visitingcardapplication;
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



Program-2:

XML-CODE

```
<?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="209dp"
android:layout_height="60dp"
android:layout_alignParentEnd="true"
android:layout alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="108dp"
android:layout marginRight="108dp"
android:layout_marginBottom="530dp"
android:text="Simple Calci"
android:textSize="36sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout constraintLeft toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout constraintTop toTopOf="parent" />
<EditText
android:id="@+id/editText2"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout_alignParentEnd="true"
android:layout alignParentRight="true"
android:layout alignParentBottom="true"
android:layout marginEnd="115dp"
android:layout_marginRight="115dp"
android:layout marginBottom="364dp"
android:ems="10"
android:hint="Enter the Number 2"
android:inputType="textPersonName"
android:text=""
android:textColorHighlight="#FFFFFF" />
<EditText
```

```
android:id="@+id/editText1"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentRight="true"
android:layout alignParentBottom="true"
android:layout marginEnd="110dp"
android:layout marginRight="110dp"
android:layout marginBottom="439dp"
android:ems="10"
android:hint="Enter the Number 1"
android:inputType="textPersonName"
android:text=""
android:textColorHighlight="#FFFFF" />
<Button
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout_alignParentEnd="true"
android:layout alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="260dp"
android:layout marginRight="260dp"
android:layout marginBottom="175dp"
android:text="ADD"
android:textStyle="bold"
android:onClick="add"
app:backgroundTint="#E8F381" />
<Button
android:id="@+id/button3"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout_alignParentEnd="true"
android:layout alignParentRight="true"
android:layout alignParentBottom="true"
android:layout marginEnd="266dp"
android:layout marginRight="266dp"
android:layout marginBottom="61dp"
android:text="MUL"
android:onClick="mul"
app:backgroundTint="#A1FAA4" />
<Button
android:id="@+id/button4"
android:layout_width="wrap content"
```

android:layout height="wrap content" android:layout_alignParentEnd="true" android:layout alignParentRight="true" android:layout alignParentBottom="true" android:layout marginEnd="108dp" android:layout marginRight="108dp" android:layout marginBottom="63dp" android:text="DIV" android:onClick="div" app:backgroundTint="#E6C28C" /> <Button android:id="@+id/button2" android:layout width="wrap content" android:layout_height="wrap_content" android:layout alignParentEnd="true" android:layout_alignParentRight="true" android:layout_alignParentBottom="true" android:layout marginEnd="105dp" android:layout_marginRight="105dp" android:layout marginBottom="182dp" android:text="SUB" android:onClick="sub" app:backgroundTint="#ECA9A9" />

<TextView

android:id="@+id/tv1"
android:layout_width="86dp"
android:layout_height="61dp"
android:layout_alignParentEnd="true"
android:layout_alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="202dp"
android:layout_marginRight="202dp"
android:layout_marginBottom="274dp"
android:text="0"
android:textSize="36sp" />
</RelativeLayout>

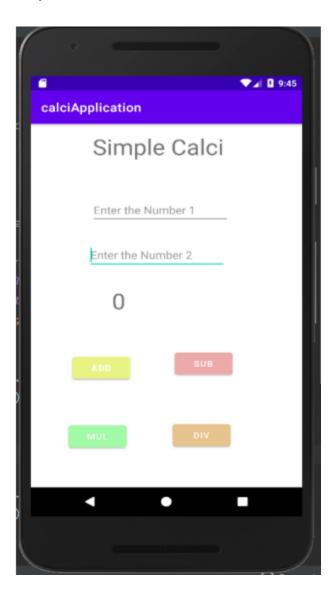
JAVA-CODE

JAVA-Code

package com.example.simplecalculator; import androidx.appcompat.app.AppCompatActivity; import android.os.Bundle; import android.view.View;

```
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity { EditText e1,e2;
TextView Total:
@Override
protected void onCreate(Bundle savedInstanceState) { super.onCreate(savedInstanceState);
setContentView(R.layout.activity main); e1=(EditText)findViewById(R.id.editText1);
e2=(EditText)findViewById(R.id.editText2); Total=(TextView)findViewById(R.id.result); }
public void add(View V)
{ int a1=Integer.parseInt(e1.getText().toString()); int a2=Integer.parseInt(e2.getText().toString());
// Converting String from EditText to Integer int Total =a1+a2;
tv.setText(""+Total);
}
public void sub(View V)
{ int a1=Integer.parseInt(e1.getText().toString()); int a2=Integer.parseInt(e2.getText().toString());
int Total =a1-a2;
tv.setText(""+Total);
}
public void mul(View V)
{ int a1=Integer.parseInt(e1.getText().toString()); int a2=Integer.parseInt(e2.getText().toString());
int Total =a1*a2;
tv.setText(""+Total); }
public void div(View V)
int a1=Integer.parseInt(e1.getText().toString());
int a2=Integer.parseInt(e2.getText().toString());
double Total =(double)(a1/a2);
tv.setText(""+Total);
}
}
```

Output



Program 3:

XML-CODE

```
<?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="129dp"
android:layout_height="45dp"
android:layout_alignParentEnd="true"
android:layout alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="168dp"
android:layout marginRight="168dp"
android:layout_marginBottom="596dp"
android:text="Sign Up"
android:textSize="24sp"
android:textStyle="bold"
app:layout constraintBottom toBottomOf="parent"
app:layout constraintLeft toLeftOf="parent"
app:layout constraintRight toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
<EditText
android:id="@+id/SignUp email"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout_alignParentRight="true"
android:layout alignParentBottom="true"
android:layout marginEnd="114dp"
android:layout marginRight="114dp"
android:layout_marginBottom="464dp"
android:ems="10"
android:hint="EmailId"
android:inputType="textPersonName" />
<Button
android:id="@+id/signUpBtn"
```

```
android:layout width="wrap content"
android:layout_height="wrap_content"
android:layout alignParentEnd="true"
android:layout alignParentRight="true"
android:layout alignParentBottom="true"
android:layout marginEnd="168dp"
android:layout marginRight="168dp"
android:layout marginBottom="245dp"
android:text="Sign Up" />
<EditText
android:id="@+id/SignUp Password"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout_alignParentEnd="true"
android:layout alignParentRight="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="101dp"
android:layout marginRight="101dp"
android:layout_marginBottom="385dp"
android:ems="10"
android:hint="Password"
android:inputType="textPassword" />
</RelativeLayout>
```

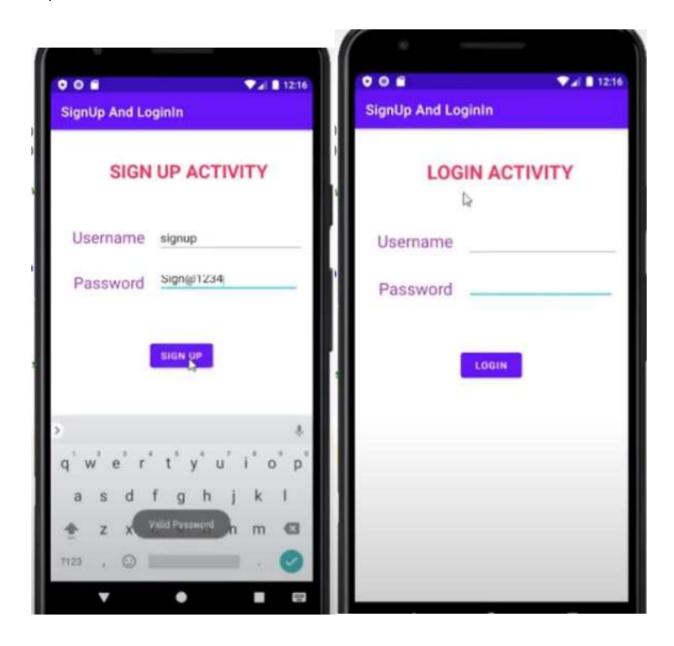
Java part of Main activity(Signup) program SIGNUP and LOGIN

```
package com.example.signupandloginin;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.util.regex.Matcher;
import java.util.regex.Pattern;
public class MainActivity extends AppCompatActivity implements View.OnClickListener {
EditText Signup Username, Signup Password;
Button btnSignup;
String regularExpression="^{?=.*[A-Z]}(?=.*[a-z])(?=.*\d)(?=.*[@$!])[A-Za-z\d@$!]{8,}$";
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
```

```
Signup Username=(EditText)findViewById(R.id.txt username);
Signup_Password=(EditText)findViewById(R.id.txt_password);
btnSignup=(Button)findViewById(R.id.btn signup);
btnSignup.setOnClickListener(this);
}
@Override
public void onClick(View v) {
String username=Signup Username.getText().toString();
String password=Signup Password.getText().toString();
if(validatePassword(password)){
Toast.makeText(getBaseContext(),"Valid Password", Toast.LENGTH LONG).show();
Bundle bundle=new Bundle();
bundle.putString("User",username);
bundle.putString("Pwd",password);
Intent it=new Intent(this,Login.class);
it.putExtra("data",bundle);
startActivity(it);
} else
Toast.makeText(getBaseContext(),"Invalid Password",Toast.LENGTH LONG).show();
}
private boolean validatePassword(String password) {
Pattern pattern=Pattern.compile(regularExpression);
Matcher matcher=pattern.matcher(password);
return matcher.matches();
}
Java part of Login activity (SIGNUP and LOGIN)
package com.example.signupandloginin;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class Login extends AppCompatActivity implements View.OnClickListener {
EditText LoginUsername, LoginPassword;
Button btnLogin;
String user, pass;
int count=0;
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity login);
LoginUsername=(EditText)findViewByld(R.id.login username);
LoginPassword=(EditText)findViewById(R.id.login password);
btnLogin=(Button)findViewById(R.id.btn login);
btnLogin.setOnClickListener(this);
Bundle bundle=getIntent().getBundleExtra("data");
user=bundle.getString("User");
pass=bundle.getString("Pwd");
@Override
public void onClick(View v) {
String user1=LoginUsername.getText().toString();
String pass1=LoginPassword.getText().toString();
if(user.equals(user1)&& pass.equals(pass1))
Toast.makeText(this,"Login Successful",Toast.LENGTH LONG).show();
}
else
{
count++;
if(count==3){
btnLogin.setEnabled(false);
Toast.makeText(this,"Failed Login Attempts",Toast.LENGTH_LONG).show();
}
else
{
Toast.makeText(this,"Login Failed" +count,Toast.LENGTH_LONG).show();
}
}
```

Output



Program 4

XML PART

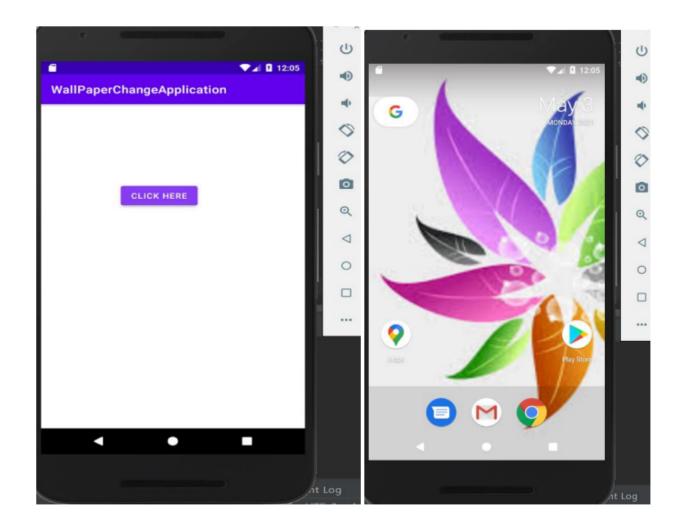
```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout width="match parent"
android:layout height="match parent"
tools:context=".MainActivity">
<Button
android:id="@+id/button"
android:layout width="wrap content"
android:layout_height="wrap_content"
android:text="Click Here"
app:layout_constraintBottom_toBottomOf="parent"
app:layout constraintEnd toEndOf="parent"
app:layout constraintStart toStartOf="parent"
app:layout_constraintTop_toTopOf="parent" />
<TextView
android:id="@+id/textView"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:text="WALL PAPER"
android:textColor="#7E0E0E"
android:textSize="24sp"
android:textStyle="bold"
app:layout constraintBottom toBottomOf="parent"
app:layout constraintEnd toEndOf="parent"
app:layout constraintHorizontal bias="0.45"
app:layout constraintStart toStartOf="parent"
app:layout constraintTop toTopOf="parent"
app:layout constraintVertical bias="0.144" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

JAVA PART

package com.example.prog4; import androidx.appcompat.app.AppCompatActivity; import android.annotation.SuppressLint; import android.app.WallpaperManager;

```
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.graphics.drawable.BitmapDrawable;
import android.graphics.drawable.Drawable;
import android.graphics.drawable.DrawableContainer;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import java.io.IOException;
import java.util.Timer;
import java.util.TimerTask;
public class MainActivity extends AppCompatActivity
{ Button dynwall;
Timer mytimer;
Drawable drawable:
WallpaperManager wpr;
int prev=1;
@Override
protected void onCreate(Bundle savedInstanceState)
{ super.onCreate(savedInstanceState);
setContentView(R.layout.activity main);
mytimer=new Timer();
wpr=WallpaperManager.getInstance(this);
dynwall=findViewById(R.id.button);
dynwall.setOnClickListener(new View.OnClickListener()
{ @Override
public void onClick(View view)
{ setWallpaper();
}
});
private void setWallpaper() {
mytimer.schedule(new TimerTask() {
@SuppressLint("MissingPermission")
@Override
public void run() {
if(prev==1) {
drawable = getResources().getDrawable(R.drawable.w1);
prev=2;
}
else if(prev==2) {
drawable = getResources().getDrawable((R.drawable.w1));
prev=3;
}
```

```
else if(prev==3) {
  drawable = getResources().getDrawable((R.drawable.w2));
  prev = 4;
  }
  else if(prev==4) {
    drawable = getResources().getDrawable((R.drawable.w3));
  prev = 1;
  }
  Bitmap
  wallpaper = ((BitmapDrawable) drawable).getBitmap();
  try {
    wpr.setBitmap(wallpaper);
  }
  catch (IOException e)
  {
    e.printStackTrace();
  }
  }
  },0,3000);
}
```



XML Code:

```
<?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="59dp"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="51dp"
android:layout marginBottom="642dp"
android:text="Counter Application"
android:textAlignment="center"
android:textColor="#2196F3"
android:textSize="36sp"
android:textStyle="bold"
app:layout constraintBottom toBottomOf="parent"
app:layout constraintLeft toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout constraintTop toTopOf="parent" />
<TextView
android:id="@+id/tv1"
android:layout width="175dp"
android:layout_height="43dp"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="117dp"
android:layout marginBottom="502dp"
android:text="Counter Value"
android:textAlignment="center" />
<Button
android:id="@+id/bt1"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="282dp"
android:layout_marginBottom="401dp"
```

```
android:shadowColor="#E91E63"
android:text="START"
android:textSize="18sp" />
<Button
android:id="@+id/bt2"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="41dp"
android:layout_marginBottom="400dp"
android:shadowColor="@color/purple 200"
android:text="STOP"
android:textColor="@color/white"
android:textSize="18sp" />
</RelativeLayout>
```

JAVA Code:

```
package com.example.lbp5;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
Button b1,b2;
TextView tc1:
int i=1;
Handler h1=new Handler();
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
b1=findViewById(R.id.bt1);
b2=findViewById(R.id.bt2);
tc1=findViewById(R.id.tv1);
b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v)
h1.postDelayed(updateTimerThread,0);
```

```
});
b2.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
h1.removeCallbacks(updateTimerThread);
}
});
}
private final Runnable updateTimerThread=new Runnable() {
@Override
public void run() {
tc1.setText(""+i);
h1.postDelayed(this,1000);
j++;
}
};
}
```



XML Code:

```
<?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="380dp"
android:layout height="72dp"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout_marginEnd="16dp"
android:layout marginBottom="621dp"
android:text="Parser Application"
android:textAlignment="center"
android:textSize="30sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout constraintHorizontal bias="0.128"
app:layout constraintLeft toLeftOf="parent"
app:layout_constraintRight_toRightOf="parent"
app:layout constraintTop toTopOf="parent"
app:layout_constraintVertical_bias="0.07" />
<Button
android:id="@+id/button"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="281dp"
android:layout marginBottom="464dp"
android:onClick="parseXml"
android:text="XML" />
<Button
android:id="@+id/button2"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
```

```
android:layout_marginEnd="69dp"
android:layout_marginBottom="465dp"
android:onClick="parseJson"
android:text="JSON" />
<TextView
android:id="@+id/display"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="37dp"
android:layout_marginBottom="264dp" android:text=""
android:textSize="18sp" />
</RelativeLayout>
```

JAVA Code

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.widget.Toast;
import org.json.JSONArray;
import org.json.JSONObject;
import org.w3c.dom.Document;
import org.w3c.dom.Element;
import org.w3c.dom.Node;
import org.w3c.dom.NodeList;
import java.io.InputStream;
import java.nio.charset.StandardCharsets;
import javax.xml.parsers.DocumentBuilder;
import javax.xml.parsers.DocumentBuilderFactory;
public class MainActivity extends AppCompatActivity
{ TextView display;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
display=findViewById(R.id.display);
}
public void parseXml(View V)
try {
```

```
InputStream is=getAssets().open("city.xml");
DocumentBuilderFactory documentBuilderFactory=DocumentBuilderFactory.newInstance();
DocumentBuilder documentBuilder = documentBuilderFactory.newDocumentBuilder();
Document document=documentBuilder.parse(is);
StringBuilder stringBuilder=new StringBuilder();
stringBuilder.append("XML DATA");
stringBuilder.append("\n-----");
NodeList nodeList=document.getElementsByTagName("place"); for (int
i=0;i<nodeList.getLength();i++)
Node node=nodeList.item(i);
if(node.getNodeType()==Node.ELEMENT_NODE) {
Element element=(Element)node;
stringBuilder.append("\n Name").append(getValue("name",element));
stringBuilder.append("\n Latitude").append(getValue("latitude",element));
stringBuilder.append("\n Longitude").append(getValue("longitude",element));
stringBuilder.append("\n Temperature").append(getValue("temperature",element));
stringBuilder.append("\n Humidity").append(getValue("humidity",element));
stringBuilder.append("\n-----");
}
}
display.setText(stringBuilder.toString()); }
catch (Exception e)
e.printStackTrace();
Toast.makeText(MainActivity.this,"Error in reading xml
file", Toast.LENGTH_SHORT).show();
}
public void parseJson(View V)
{ String json;
StringBuilder stringBuilder=new StringBuilder(); try
InputStream is=getAssets().open("city.json"); int size=is.available();
byte[] buffer=new byte[size];
is.read(buffer);
json=new String(buffer, StandardCharsets.UTF 8);
JSONArray jsonArray=new JSONArray(json); stringBuilder.append("JSON
DATA");
stringBuilder.append("\n----");
for (int i=0;i<jsonArray.length();i++)</pre>
{
JSONObject jsonObject=jsonArray.getJSONObject(i); stringBuilder.append("\n
Name").append(jsonObject.getString("name"));
```

```
stringBuilder.append("\n
Latitude").append(jsonObject.getString("latitude"));
stringBuilder.append("\n
Longitude").append(jsonObject.getString("longitude"));
stringBuilder.append("\n
Temperature").append(jsonObject.getString("temperature"));
stringBuilder.append("\n
Humidity").append(jsonObject.getString("humidity"));
stringBuilder.append("\n----");
display.setText(stringBuilder.toString());
is.close();
}
catch (Exception e)
e.printStackTrace();
Toast.makeText(MainActivity.this,"Error in reading json
file", Toast.LENGTH SHORT).show();
}
}
private String getValue(String tag,Element element) {
return
element.getElementsByTagName(tag).item(0).getChildNodes().item(0). getNodeValue();
}
```



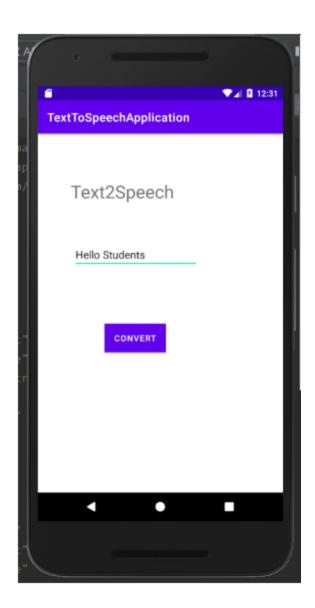
XML Code:

```
<?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"
android:textAlignment="center"
tools:context=".MainActivity">
<TextView
android:layout width="291dp"
android:layout height="58dp"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout_marginEnd="67dp"
android:layout marginBottom="617dp"
android:text="Text to Speech"
android:textAlignment="center"
android:textSize="36sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout constraintRight toRightOf="parent"
app:layout_constraintTop_toTopOf="parent" />
<EditText
android:id="@+id/editText"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout_alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="113dp"
android:layout marginBottom="484dp"
android:ems="10"
android:inputType="textPersonName"
android:hint="enter text here"
android:text="" />
<Button
android:id="@+id/b1"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout_alignParentEnd="true"
android:layout alignParentBottom="true"
android:onClick="convert"
```

```
android:layout_marginEnd="185dp"
android:layout_marginBottom="359dp"
android:text="convert" />
</RelativeLayout>
```

JAVA Code

```
package com.example.lb7;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import java.util.Locale;
public class MainActivity extends AppCompatActivity {
EditText e1;
TextToSpeech t1;
@Override
protected void onCreate(Bundle savedInstanceState)
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
e1=findViewById(R.id.editText);
t1=new TextToSpeech(getApplicationContext(), new TextToSpeech.OnInitListener() {
@Override
public void onInit(int status)
if(status!=TextToSpeech.ERROR)
t1.setLanguage(Locale.UK);
}
}
});
public void convert(View V)
String tospeak=e1.getText().toString();
t1.speak(tospeak,TextToSpeech.QUEUE_FLUSH,null);
}
```



XML-Code

```
<?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 alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="161dp"
android:layout marginBottom="651dp"
android:text="Call App"
android:textSize="24sp"
app:layout constraintBottom toBottomOf="parent"
app:layout_constraintLeft_toLeftOf="parent"
app:layout constraintRight toRightOf="parent"
app:layout constraintTop toTopOf="parent" />
<EditText
android:id="@+id/editText"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="191dp"
android:layout marginBottom="541dp"
android:ems="10"
android:hint="Enter phone number"
android:inputType="" />
<Button
android:id="@+id/clearBtn"
android:layout width="82dp"
android:layout_height="37dp"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="68dp"
android:layout marginBottom="546dp"
android:text="Clear" />
```

```
<Button
android:id="@+id/btn1"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="301dp"
android:layout marginBottom="471dp"
android:onClick="inputNumber"
android:background="#D0173F49"
android:text="1" />
<Button
android:id="@+id/btn2"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="193dp"
android:layout_marginBottom="472dp"
android:onClick="inputNumber"
android:background="#D0173F49"
android:text="2" />
<Button
android:id="@+id/btn3"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:onClick="inputNumber"
android:layout_marginEnd="80dp"
android:layout marginBottom="471dp"
android:background="#D0173F49"
android:text="3" />
<Button
android:id="@+id/btn4"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="302dp"
android:layout marginBottom="403dp"
android:background="#D0173F49"
android:onClick="inputNumber"
android:text="4" />
```

```
<Button
android:id="@+id/btn5"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="193dp"
android:layout marginBottom="402dp"
android:background="@color/purple 200"
android:onClick="inputNumber"
android:text="5" />
<Button
android:id="@+id/btn6"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="77dp"
android:layout_marginBottom="403dp"
android:background="#D0173F49"
android:onClick="inputNumber"
android:text="6" />
<Button
android:id="@+id/btn7"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="302dp"
android:layout_marginBottom="336dp"
android:background="#D0173F49"
android:onClick="inputNumber"
android:text="7" />
<Button
android:id="@+id/btn8"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="193dp"
android:layout marginBottom="338dp"
android:onClick="inputNumber"
android:text="8" />
<Button
```

```
android:id="@+id/btn9"
android:layout_width="wrap_content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="69dp"
android:layout marginBottom="336dp"
android:background="#D0173F49"
android:onClick="inputNumber"
android:text="9" />
<Button
android:id="@+id/btn10"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="302dp"
android:layout marginBottom="283dp"
android:background="#D0173F49"
android:onClick="inputNumber"
android:text="*" />
<Button
android:id="@+id/btn11"
android:layout width="wrap content"
android:layout_height="wrap_content"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="190dp"
android:layout marginBottom="283dp"
android:background="#D0173F49"
android:onClick="inputNumber"
android:text="0" />
<Button
android:id="@+id/btn12"
android:layout width="wrap content"
android:layout height="wrap content"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout_marginEnd="78dp"
android:layout marginBottom="282dp"
android:background="#D0173F49"
android:onClick="inputNumber"
android:text="#" />
<Button
```

```
android:id="@+id/callBtn"
android:layout_width="127dp"
android:layout height="63dp"
android:layout alignParentEnd="true"
android:layout alignParentBottom="true"
android:layout marginEnd="232dp"
android:layout marginBottom="194dp"
android:text="Call" />
<Button
android:id="@+id/saveBtn"
android:layout width="107dp"
android:layout_height="60dp"
android:layout alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout marginEnd="59dp"
android:layout marginBottom="193dp"
android:text="Save" />
</RelativeLayout>
```

JAVA Code

```
package com.example.myapplication;
import
androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.provider.ContactsContract;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity
{ EditText editText;
Button clearBtn,callBtn,saveBtn;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
editText=findViewById(R.id.editText);
clearBtn=findViewById(R.id.clearBtn);
callBtn=findViewById(R.id.callBtn);
saveBtn=findViewById(R.id.saveBtn);
clearBtn.setOnClickListener(new View.OnClickListener() {
```

```
@Override
public void onClick(View v) {
editText.setText("");
}
});
callBtn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String phnum=editText.getText().toString();
Intent intent=new Intent(Intent.ACTION DIAL);
intent.setData(Uri.parse("tel:"+phnum));
startActivity(intent);
}
});
saveBtn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
String phnum=editText.getText().toString();
Intent intent=new Intent(Intent.ACTION_INSERT);
intent.setType(ContactsContract.Contacts.CONTENT TYPE);
intent.putExtra(ContactsContract.Intents.Insert.PHONE,phnum);
startActivity(intent);
}
});
public void inputNumber(View V)
Button btn=(Button)V;
String digit=btn.getText().toString();
String phnum=editText.getText().toString();
editText.setText(phnum + digit);
}
}
```

