

Program-1: Create an application to design a Visiting Card. The Visiting card should have a company logo at the top right corner. The company name should be displayed in Capital letters, aligned to the center. Information like the name of the employee, job title, phone number, address, email, fax and the website address is to be displayed. Insert a horizontal line between the job title and the phone number.

- 1) Firstly Create an Application by Name “VisitingCardApp”
- 2) Go to xml code of design, change the layout to “Constraint Layout”
- 3) Add TextView component change the following properties:
 - Size: 38dp
 - Text: JIT
 - Align left top
- 4) Add ImageView to design and in type choose “IC_LAUNCHER_FOREGROUND”
 - Download the logo & copy the same in res->drawable folder
 - In xml code of imageview change srcCompat=”@drawable/logo”
 - Align right top
- 5) Add View component & change the following properties:
 - Height: 4dp
 - Background: “#4444” (black color)
- 6) Add TextView component change the following properties:
 - Size: 20dp
 - Text: Azizkhan F Pathan
 - Style: Bold
 - Align center
- 7) Add TextView component change the following properties:
 - Size: 20dp
 - Text: Assistant Professor, Dept. of CS&E
 - Align center
- 8) Add TextView component change the following properties:
 - Size: 20dp

- Text: Address: Bada Cross, Davangere-577003
- Align: center

9) Add TextView component change the following properties:

- Size: 20dp
- Text: Email: azizkhan@jitd.in
- Align: center

10) Add TextView component change the following properties:

- Size: 20dp
- Text: Mobile: 8105420597

JAVA-CODE:

```
package com.example.VisitingCardApp;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import com.example.VisitingCardApp.R;

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

Program-2: Develop an Android application using controls like Button, TextView, EditText for designing a calculator having basic functionality like Addition, Subtraction, Multiplication, and Division.

- 1) Firstly Create an Application by Name “SimpleCalci”
- 2) Go to xml code of design change the layout to “Constraint Layout”
- 3) Add TextView component & change the following properties:
 - Size: 38dp
 - Text: Simple Calculator
 - Center-Align

4) Add PlainText (EditText) component & change the following properties in XML Code:

- Text: “ ”
- Hint: “Enter the first number”
- id: “@+id/editText1”

5) Add PlainText (EditText) component & change the following properties in XML Code:

- Text: “ ”
- Hint: “Enter the second number”
- id: “@+id/editText2”

6) Add TextView component to display result & change the following properties:

- Size: 40dp
- Text: “0”
- Center-Align
- id: “@+id/textView1”

7) Add 5 Buttons & rename the four buttons “Add”, “Sub”, ”Mul”, “div” and “Clear” with following addition:

- Onclick: “doAdd”(Add Button)
- Onclick: “doSub”(Sub Button)
- Onclick: “doMul”(Mul Button)
- Onclick: “doDiv”(Div Button)
- Onclick: “clear”(Clear Button)

JAVA-CODE:

```
package com.example.SimpleCalci;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import com.example.simplecalci.R;

public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    TextView tv1;
    @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);
        tv1 = findViewById(R.id.textView1);
    }

    public void doAdd(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1+a2;
        tv1.setText(""+result);
    }

    public void doSub(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1-a2;
        tv1.setText(""+result);
    }

    public void doMul(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        int result= a1*a2;
        tv1.setText(""+result);
    }

    public void doDiv(View V){
        int a1 = Integer.parseInt(e1.getText().toString());
        int a2 = Integer.parseInt(e2.getText().toString());
        float result= a1/a2;
        tv1.setText(""+result);
    }

    public void clear(View V)
    {
        e1.setText("");
        e2.setText("");
        tv1.setText("");
    }
}

```

Program-3: Create a SIGN Up activity with Username and Password. Validation of password should happen based on the following rules:

- ✓ Password should contain uppercase and lowercase letters.
- ✓ Password should contain letters and numbers.
- ✓ Password should contain special characters.
- ✓ Minimum length of the password (the default value is 8).

On successful SIGN UP proceed to the next Login activity. Here the user should SIGN IN using the Username and Password created during signup activity. If the Username and Password are matched then navigate to the next activity which displays a message saying “Successful Login” or else display a toast message saying “Login Failed”. The user is given only two attempts and after that display a toast message saying “Failed Login Attempts” and disable the SIGN IN button. Use Bundle to transfer information from one activity to another.

- 1) Firstly Create an Application by Name “SignUpActivity”
- 2) Go to xml code of design change the layout to “Constraint Layout”
- 3) Add TextView component & change the following properties:
 - ✓ Size: 38dp
 - ✓ Text: “Sign Up”
 - ✓ Center-Align
- 4) Add Email (EditText) component & change the following properties in XML Code:
 - ✓ Hint: “Email ID”
 - ✓ id: “@+id/s_etname”
- 5) Add Password (EditText) component & change the following properties in XML Code:
 - ✓ Hint: “Password”
 - ✓ id: “@+id/s_etpassword”
- 6) Add Button component & change the following properties in XML
 - ✓ Id: “@+id/b_signin”
 - ✓ Text: “Sign Up”

JAVA-CODE

MainActivity.java

```
package com.example.SignUpActivity;
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;
import com.example.signupactivity.R;

public class MainActivity extends AppCompatActivity {

    Button signup;
    EditText username, password;

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

        username = findViewById(R.id.s_etname);
```

```

password = findViewById(R.id.s_etpassword);
signup = findViewById(R.id.b_signup);

signup.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        if(password.getText().toString().length() >= 8
            && validatePassword(password.getText().toString())) {
            Toast.makeText(getApplicationContext(), "Successful Sign
                                UP", Toast.LENGTH_LONG).show();
            Intent it = new Intent(getApplicationContext(), login.class);
            Bundle b = new Bundle();
            b.putString("user", username.getText().toString());
            b.putString("pass", password.getText().toString());
            it.putExtras(b);
            startActivity(it);
        }
        else {
            Toast.makeText(getApplicationContext(), "not
                                VALID", Toast.LENGTH_LONG).show();
        }
    }
});
}

public boolean validatePassword(String password) { Pattern pattern;
    Matcher matcher;
    final String PASSWORD_PATTERN = "^(?=.*[0-9])(?=.*[A-Z])(?=.*[a-
                                z])(?=.*[@#$%^&+=!]) (?!\\S+$)\\. {8,} $";
    pattern = Pattern.compile(PASSWORD_PATTERN);
    matcher = pattern.matcher(password);
    return matcher.matches();
}
}

```

- 7) Right click on Java folder-> new-> activity->empty activity-> name it as “login”
- 8) Go to xml code of design change the layout to “Constraint Layout”
- 9) Add TextView component & change the following properties:
 - ✓ Size: 38dp
 - ✓ Text: “Login”
 - ✓ Center-Align
- 10) Add Email (EditText) component & change the following properties in XML Code:
 - ✓ Hint: “Email ID”
 - ✓ id: “@+id/ l_etname”
- 11) Add Password (EditText) component & change the following properties in XML Code:
 - ✓ Hint: “Password”
 - ✓ id: “@+id/ l_etpassword”
- 12) Add Button component & change the following properties in XML
 - ✓ id: “@+id/b_login”
 - ✓ Text: “Login”

login.java

```
package com.example.SignUpActivity;

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 androidx.appcompat.app.AppCompatActivity;
import com.example.signupactivity.R;

public class login extends AppCompatActivity {

    Button l_login;
    EditText l_username, l_password;
    int counter = 2;

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

        l_username= findViewById(R.id.l_etname);
        l_password= findViewById(R.id.l_etpword);
        l_login= findViewById(R.id.b_login);
        l_login.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Bundle b = getIntent().getExtras();
                String user = b.getString("user");
                String pass = b.getString("pass");
                if(user.equals(l_username.getText().toString())
                    && pass.equals(l_password.getText().toString()))
                {
                    Intent it = new Intent(getBaseContext(), success.class);
                    startActivity(it);
                }
                else
                {
                    Toast.makeText(getBaseContext(), "LOGIN
                        FAILED", Toast.LENGTH_LONG).show();
                }
                counter--;
                if(counter == 0)
                {
                    Toast.makeText(getBaseContext(), "FAILED LOGIN
                        ATTEMPTS", Toast.LENGTH_LONG).show();
                    l_login.setEnabled(false);
                }
            }
        });
    }
}
```

13) Right click on Java folder-> new-> activity->empty activity-> name it as “success”

14) Go to xml code of design change the layout to “Constraint Layout”

15) Add TextView component & change the following properties:

- ✓ Size: 38dp
- ✓ Text: “Login Successful”
- ✓ Center-Align

success.java

```
package com.example.SignUpActivity;

import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;

import com.example.signupactivity.R;

public class success extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_success);
    }
}
```

Program-4: Develop an application to set an image as wallpaper. On click of a button, the wallpaper image should start to change randomly every 30 seconds.

- 1) Firstly Create an Application by Name “WallpaperActivity”
- 2) Go to xml code of design change the layout to “Constraint Layout”
- 3) Add TextView component & change the following properties:
 - ✓ Size: 38dp
 - ✓ Text: Wall Paper Change Application
 - ✓ Center-Align
- 4) Add Button component & change the following properties:
 - ✓ Size: 38dp
 - ✓ Text: Click Here To Change Wall Paper
- 5) Save five images (jpg format) in the drawable folder. In this example one.jpg, two.jpg, three.jpg, four.jpg and five.jpg images are saved in drawable folder.

JAVA-CODE

MainActivity.java

```
package com.example.WallpaperActivity;

import androidx.appcompat.app.AppCompatActivity;
import android.app.WallpaperManager;
import android.graphics.Bitmap;
import android.graphics.BitmapFactory;
import android.graphics.drawable.AnimationDrawable;
import android.graphics.drawable.BitmapDrawable;
import android.graphics.drawable.Drawable;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import java.io.IOException;
import java.util.Timer;
import java.util.TimerTask;
import com.example.wallpaperactivity.R;
```



```

public class MainActivity extends AppCompatActivity {
    Button changewallpaper;
    Timer mytimer;
    Drawable drawable;
    WallpaperManager wpm;
    int prev=1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mytimer = new Timer();
        wpm = WallpaperManager.getInstance(this);
        changewallpaper = findViewById(R.id.button);
        changewallpaper.setOnClickListener(new View.OnClickListener() {
            @Override public void onClick(View view) {
                setWallpaper();
            }
        });
    }
    private void setWallpaper() {
        mytimer.schedule(new TimerTask() {
            @Override
            public void run() {
                if(prev==1) {
                    drawable = getResources().getDrawable(R.drawable.one);
                    prev = 2;
                }
                else if(prev==2) {
                    drawable = getResources().getDrawable(R.drawable.two);
                    prev=3;
                }
                else if(prev==3) {
                    drawable = getResources().getDrawable(R.drawable.three);
                    prev=4;
                }
                else if(prev==4) {
                    drawable = getResources().getDrawable(R.drawable.four);
                    prev=5;
                }
                else if(prev==5) {
                    drawable = getResources().getDrawable(R.drawable.five);
                    prev=1;
                }
                Bitmap wallpaper = ((BitmapDrawable)drawable).getBitmap();
                try
                {
                    wpm.setBitmap(wallpaper);
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        },0,30000);
    }
}

```

Program-5: Write a program to create an activity with two buttons START and STOP. On pressing of the START button, the activity must start the counter by displaying the numbers from One and the counter must keep on counting until the STOP button is pressed. Display the counter value in a TextViewcontrol.

- 1) Firstly Create an Application by Name “CounterActivity”
- 2) Go to xml code of design change the layout to “Constraint Layout”
- 3) Add TextView component & change the following properties:
 - Size: 38dp
 - Text: “Counter Application”
 - Center-Align
- 4) Add TextView component & change the following properties:
 - Text: “Counter Value”
- 5) Add Button components & change the following properties:
 - Size: 38dp
 - Text: Start
 - id: “@+id/btn_start”
- 6) Add Button components & change the following properties:
 - Size: 38dp
 - Text: Stop
 - id: “@+id/btn_stop”

JAVA-CODE:

```
package com.example.CounterActivity;
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;
import com.example.counteractivity.R;

public class MainActivity extends AppCompatActivity {
    Button btnstart, btnstop;
    TextView txtcounter;
    int i=1;
    Handler customHandler=new Handler();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnstart=findViewById(R.id.btn_start);
        btnstop=findViewById(R.id.btn_stop);
        txtcounter=findViewById(R.id.textView);
        btnstart.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                customHandler.postDelayed(updateTimerThread,0);
            }
        });
        btnstop.setOnClickListener(new View.OnClickListener() {
```

```

        @Override
        public void onClick(View v) {
            customHandler.removeCallbacks(updateTimerThread);
        }
    });
}
private final Runnable updateTimerThread=new Runnable() {
    @Override
    public void run() {
        txtcounter.setText(""+i);
        customHandler.postDelayed(this,1000);
        i++;
    }
};
}

```

Program-6: Create two files of XML and JSON type with values for City_Name, Latitude, Longitude, Temperature, and Humidity. Develop an application to create an activity with two buttons to parse the XML and JSON files which when clicked should display the data in their respective layouts side by side.

1) Firstly Create an Application by Name “JsonParser”

2) Go to xml code of design change the layout to “Constraint Layout”

3) Add TextView component & change the following properties:

- Size: 38dp
- Text: XML and JSON Parser
- Center-Align

4) Add Two Buttons to Design & change the name “ParseXml” & “ParseJson” with following onclick functions:

- ParseXml-Button: onClick: parsexml
- ParseJson-Button: onClick: parsejson

5) Add TextView component & change the following properties:

- Id: display
- Text: “”
- Align: Center

6) Add Assets folder by following the given hierarchy:

- App->new->folder->Assests folder

7) Inside the assets folder create new files of xml and json using the following hierarchy:

- new->file->city.xml
- new->file->city.json

once created place the following details inside the “city.xml” and “city.json”

city.xml:

```
<?xml version="1.0"?>
<records>
  <place>
    <name>Davangere</name>
    <lat>14.470</lat>
    <long>75.914</long>
    <temperature>23</temperature>
    <humidity>92%</humidity>
  </place>
  <place>
    <name>Bangalore</name>
    <lat>14.230</lat>
    <long>76.400</long>
    <temperature>22</temperature>
    <humidity>92%</humidity>
  </place>
</records>
```

city.json:

```
[
  {
    "name": "HASSAN",
    "lat": "12.295",
    "long": "76.639",
    "temperature": "22",
    "humidity": "92% "
  },
  {
    "name": "MANDYA",
    "lat": "12.97165",
    "long": "77.5946",
    "temperature": "25",
    "humidity": "74% "
  }
]
```

```

package com.example.jsonparser;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.text.style.TabStopSpan;
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 = (TextView) 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("\nName: ").append(getValue("name",
element));
                    stringBuilder.append("\nLatitude: ").append(getValue("lat",
element));
                    stringBuilder.append("\nLongitude: ").append(getValue("long",
element));
                    stringBuilder.append("\nTemperature:
").append(getValue("temperature", element));
                    stringBuilder.append("\nHumidity:
").append(getValue("humidity", element));
                    stringBuilder.append("\n ----- ");
                }
            }
            display.setText(stringBuilder.toString());
        } catch (Exception e) {
            e.printStackTrace();
            Toast.makeText(MainActivity.this, "Error Parsing
XML", Toast.LENGTH_LONG).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++) {
            JSONObject jsonObject = jsonArray.getJSONObject(i);
            stringBuilder.append("\nName:");
            stringBuilder.append(jsonObject.getString("name"));
            stringBuilder.append("\nLatitude:");
            stringBuilder.append(jsonObject.getString("lat"));
            stringBuilder.append("\nLongitude:");
            stringBuilder.append(jsonObject.getString("long"));
            stringBuilder.append("\nTemperature:");
            stringBuilder.append(jsonObject.getString("temperature"));
            stringBuilder.append("\nHumidity:");
            stringBuilder.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", Toast.LENGTH_LONG).show();
    }
}

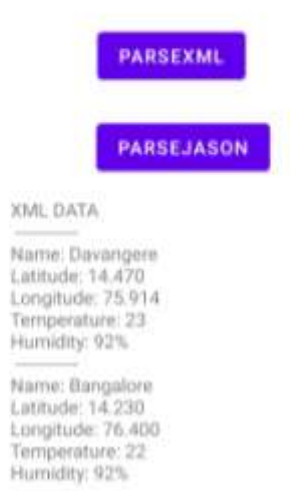
private String getValue(String tag, Element element)
{
    return
element.getElementsByTagName(tag).item(0).getChildNodes().item(0).getNodeValue();
}
}

```

Output:

jsonparser1

XML and Json Parser



XML and Json Parser



Program-7: Develop a simple application with one EditText so that the user can write some text in it. Create a button called “Convert Text to Speech” that converts the user input text into voice.

- 1) Firstly Create an Application by Name “TextToSpeech”
- 2) Go to xml code of design change the layout to “Constraint Layout”
- 3) Add TextView component & change the following properties:
 - Size: 38dp
 - Text: Text2Speech App
 - Center-Align
- 4) Add PlainText(EditText) component & change the following properties in XMLCode:
 - Text: “”
 - Hint: “Enter the text to be converted”
 - id: “@+id/editText”
- 5) Add Button component & change the following properties in XML Code:
 - Name: Convert
 - onClick: convert
 - id: “@+id/button”

JAVA-CODE:

```
package com.example.TextToSpeech;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.speech.tts.TextToSpeech;
import android.view.View;
import android.widget.EditText;
import android.widget.Toast;
import java.util.Locale;
import com.example.texttospeech.R;
```

```

public class MainActivity extends AppCompatActivity {
    TextToSpeech t1;
    EditText e1;
    @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 view){
        String tospeak = e1.getText().toString();
        t1.speak(tospeak,TextToSpeech.QUEUE_FLUSH,null);
    }
}

```

Program-8: Create an activity like a phone dialer with CALL and SAVE buttons. On pressing the CALL button, it must call the phone number and on pressing the SAVE button it must save the number to the phone contacts.

- 1) Firstly Create an Application by Name “CallActivity”
- 2) Go to xml code of design change the layout to “Constraint Layout”
- 3) Add TextView component & change the following properties:
 - ✓ Size: 38dp
 - ✓ Text: Call Activity
 - ✓ Center-Align
- 4) Add EditText component & change the following properties in XML Code:
 - ✓ id: “@+id/ txt_phonenumber”
- 5) Add three buttons to the design & change the text of the Buttons to “Delete”, “Call”, “Save” and change the id as follows:
 - ✓ id: “@+id/ btn_delete”
 - ✓ id: “@+id/ btn_call”
 - ✓ id: “@+id/ btn_save”
- 7) Add twelve buttons to the design & change the text of the Buttons as 1,2,3,4,5,6,7,8,9,0,*,#
 - ✓ id: “@+id/ btn_one”
 - ✓ id: “@+id/ btn_two”
 - ✓ id: “@+id/ btn_three”

- ✓ id: "@+id/ btn_four"
- ✓ id: "@+id/ btn_five"
- ✓ id: "@+id/ btn_six"
- ✓ id: "@+id/ btn_seven"
- ✓ id: "@+id/ btn_eight"
- ✓ id: "@+id/ btn_nine"
- ✓ id: "@+id/ btn_zero"
- ✓ id: "@+id/ btn_star"
- ✓ id: "@+id/ btn_hash"

JAVA-CODE:

```
package com.example.callactivity;
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;
import com.example.callactivity.R;
public class MainActivity extends AppCompatActivity implements View.OnClickListener{
    Button btnOne,btnTwo,btnThree,btnFour,btnFive;
    Button btnSix,btnSeven,btnEight,btnNine,btnZero;
    Button btnDel,btnStar,btnHash,btnCall,btnSave;
    EditText txtPhonenumber;
    @Override
    protected void onCreate(Bundle savedInstanceState){
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnOne=(Button)findViewById(R.id.btn_one);
        btnOne.setOnClickListener(this);
        btnTwo=(Button)findViewById(R.id.btn_two);
        btnTwo.setOnClickListener(this);
        btnThree=(Button)findViewById(R.id.btn_three);
        btnThree.setOnClickListener(this);
        btnFour=(Button)findViewById(R.id.btn_four);
        btnFour.setOnClickListener(this);
```

```

        btnFive=(Button)findViewById(R.id.btn_five);
        btnFive.setOnClickListener(this);
        btnSix=(Button)findViewById(R.id.btn_six);
        btnSix.setOnClickListener(this);
        btnSeven=(Button)findViewById(R.id.btn_seven);
        btnSeven.setOnClickListener(this);
        btnEight=(Button)findViewById(R.id.btn_eight);
        btnEight.setOnClickListener(this);
        btnNine=(Button)findViewById(R.id.btn_nine);
        btnNine.setOnClickListener(this);
        btnZero=(Button)findViewById(R.id.btn_zero);
        btnZero.setOnClickListener(this);
        btnStar=(Button)findViewById(R.id.btn_star);
        btnStar.setOnClickListener(this);
        btnHash=(Button)findViewById(R.id.btn_hash);
        btnHash.setOnClickListener(this);
        btnCall=(Button)findViewById(R.id.btn_call);
        btnCall.setOnClickListener(this);
        btnSave=(Button)findViewById(R.id.btn_save);
        btnSave.setOnClickListener(this);
        btnDel=(Button)findViewById(R.id.btn_delete);
        btnDel.setOnClickListener(this);
        txtPhonenumber=(EditText)findViewById(R.id.txt_phonenumber);
        txtPhonenumber.setText("");
    }

```

```

public void onClick(View v)
{
    if(v.equals(btnOne))
        txtPhonenumber.append("1");
    else if(v.equals(btnTwo))
        txtPhonenumber.append("2");
    else if(v.equals(btnThree))
        txtPhonenumber.append("3");
    else if(v.equals(btnFour))
        txtPhonenumber.append("4");
    else if(v.equals(btnFive))
        txtPhonenumber.append("5");
}

```

```

else if(v.equals(btnSix))
    txtPhonenumber.append("6");
else if(v.equals(btnSeven))
    txtPhonenumber.append("7");
else if(v.equals(btnEight))
    txtPhonenumber.append("8");
else if(v.equals(btnNine))
    txtPhonenumber.append("9");
else if(v.equals(btnZero))
    txtPhonenumber.append("0");
else if(v.equals(btnStar))
    txtPhonenumber.append("*");
else if(v.equals(btnHash))
    txtPhonenumber.append("#");
else if(v.equals(btnSave))
{
    Intent contactIntent=new Intent (ContactsContract.Intents.Insert.ACTION);
    contactIntent.setType(ContactsContract.RawContacts.CONTENT_TYPE);
    contactIntent.putExtra(ContactsContract.Intents.Insert.NAME,"Unknown");
    contactIntent.putExtra(ContactsContract.Intents.Insert.PHONE, txtPhonenumber.getText().toString());
    startActivity(contactIntent);
}
else if(v.equals(btnDel))
{
    String data=txtPhonenumber.getText().toString();
    if(data.length()>0)
    {
        txtPhonenumber.setText (data.substring(0,data.length()-1));
    }
    else
    {
        txtPhonenumber.setText("");
    }
}

btnCall.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View v){
        String data=txtPhonenumber.getText().toString();

```

```
        Intent intent=new Intent(Intent.ACTION_DIAL);
        intent.setData(Uri.parse("tel:"+data));
        startActivity(intent);
    }
});
}
}
```