Hello world program (Write a program to Toast Hello World)

```
package com.example.hello;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Button;
import android.widget.Toast;
import android.view.View;
import android.view.View.OnClickListener;
public class MainActivity extends AppCompatActivity {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    Button b=(Button)findViewById(R.id.button);
    b.setOnClickListener(new OnClickListener() {
    @Override
      public void onClick(View v) {
       Toast.makeText(getApplicationContext(), "Hello World",
Toast.LENGTH SHORT).show();
      });
```

activity main.xml

Program number 2

Addition of two Numbers (Write a program to add two numbers)

```
package com.example.sum;
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 {
TextView t1;
Button b1;
EditText e1;
EditText e2;
```

```
@Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    e1=(EditText) findViewById(R.id.e1);
    e2=(EditText) findViewById(R.id.e2);
    t1=(TextView)findViewById(R.id.t1);
    b1=(Button)findViewById(R.id.b1);
    b1.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View view)
        int a = Integer.parseInt(e1.getText().toString());
        int b = Integer.parseInt(e2.getText().toString());
         int c=a+b:
        t1.setText("Answer = " +String.valueOf(c));
    });
activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
tools:context=".MainActivity">
 <EditText
    android:id="@+id/e1"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:inputType="number" />
```

```
<EditText
    android:id="@+id/e2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:inputType="number" />

<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Add"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_width="wrap_content"
    android:layout_width="wrap_content"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Alert Box (Write a program to Display an alert box with OK and Cancel)

```
package com.example.alert;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.app.AlertDialog;
import android.content.DialogInterface;
import android.widget.Button;
import android.view.View;
```

```
public class MainActivity extends AppCompatActivity {
  public static Button button;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
  }
  public void dialogevent(View view) {
    b = (Button) findViewById(R.id.button);
    b.setOnClickListener(new View.OnClickListener() {
       @Override
      public void onClick(View v) {
         AlertDialog.Builder dial = new AlertDialog.Builder(MainActivity.this);
         dial.setMessage("Do you want to
quit?").setCancelable(false).setPositiveButton("Yes", new
DialogInterface.OnClickListener() {
           @Override
           public void onClick(DialogInterface dialog, int which) {
              finish();
         })
              .setNegativeButton("No", new DialogInterface.OnClickListener() {
                @Override
                public void onClick(DialogInterface dialog, int which) {
                   dialog.cancel();
                }
              });
         AlertDialog alert = dial.create();
         alert.setTitle("Alert Box");
         alert.show();
       }
```

```
});
}

Activity_main.xml

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
tools:context=".MainActivity">

<Button
    android:id="@+id/button"
    android:onClick="dialogevent"
    android:text="Exit"
    </androidx.constraintlayout.widget.ConstraintLayout>
```

Menu program (Write a program to create menu with 3 menu items)

```
package com.example.menu;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```
super.onCreate(savedInstanceState);
      setContentView(R.layout.activity main);
    }
   @Override
   public boolean onCreateOptionsMenu(Menu menu)
      MenuInflater inflater=getMenuInflater();
      inflater.inflate(R.menu.example menu,menu);
      return true;
    }
   @Override
   public boolean onOptionsItemSelected (MenuItem item)
      switch(item.getItemId()){
        case R.id.item1:
          Toast.makeText(this,"Item 1 selected", Toast.LENGTH SHORT).show();
          return true;
        case R.id.item2:
          Toast.makeText(this,"Item 2 selected", Toast.LENGTH SHORT).show();
          return true;
        case R.id.item3:
           Toast.makeText(this,"Item 3 selected",Toast.LENGTH_SHORT).show();
          return true;
        default:
          return super.onOptionsItemSelected(item);
  example menu.xml
<?xml version="1.0" encoding="utf-8"?>
```

```
<menu xmlns:android="http://schemas.android.com/apk/res/android">

<item android:id="@+id/item1"
android:title ="Item1" />

<item android:id="@+id/item2"
android:title ="Item2" />

<item android:id="@+id/item3"
android:title ="Item3" />

</menu>
```

RadioButton (Write a program to select gender using radio button)

```
package com.example.radio;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
   RadioGroup rg;
   RadioButton rb;
   Button b;
```

```
@Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    rg = (RadioGroup) findViewById(R.id.radio);
    b = (Button) findViewById(R.id.button);
    b.setOnClickListener(new OnClickListener() {
      @Override
      public void onClick(View v) {
        int selectedId = rg.getCheckedRadioButtonId();
        rb = (RadioButton) findViewById(selectedId);
        Toast.makeText(MainActivity.this, rb.getText(),
Toast.LENGTH SHORT).show();
    });
 }
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
tools:context=".MainActivity">
 < Radio Group
    android:id="@+id/radio"
    android:layout width="match parent"
    android:layout height="match parent">
    < Radio Button
      android:id="@+id/male"
      android:checked="true"
      android:text="Male" />
```

```
<RadioButton
    android:id="@+id/demale"
    android:text="Female" />
</RadioGroup>

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Submit" />

<TextView
    android:id="@+id/textView"
    android:text="Select Gender" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Spinner (Write a program to spin the four items)

```
package com.example.spinner;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;
```

```
public class MainActivity extends AppCompatActivity implements
  AdapterView.OnItemSelectedListener{
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity main);
      Spinner spinner =(Spinner)findViewById(R.id.spinner);
     ArrayAdapter<CharSequence>adapter=ArrayAdapter.createFromResource(this,
      R.array.district, android.R.layout.simple spinner item);
adapter.setDropDownViewResource(android.R.layout.simple spinner dropdown item);
      spinner.setAdapter(adapter);
      spinner.setOnItemSelectedListener(this);
   @Override
public void onItemSelected(AdapterView<?> parent, View view, int position,long id)
      String text=parent.getItemAtPosition(position).toString();
      Toast.makeText(parent.getContext(),text, Toast.LENGTH_SHORT).show();
  Activity main.xml
  <?xml version="1.0" encoding="utf-8"?>
  <androidx.constraintlayout.widget.ConstraintLayout
   tools:context=".MainActivity">
   <Spinner
      android:id="@+id/spinner"
      android:layout width="wrap content"
      android:layout height="wrap content" />
```

```
<TextView
    android:id="@+id/textView"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Select District: "/>
</androidx.constraintlayout.widget.ConstraintLayout>
Strings.xml
<resources>
 <string name="app_name">Spinner</string>
 <string-array name="district">
     <item>Kozhikode</item>
     <item>Kannur</item>
     <item>Malappuram</item>
      <item>Thrissur</item>
 </string-array>
</resources>
```

CheckBox(Write a program to check the items listed)

```
package com.example.checkbox;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
```

```
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
 CheckBox english, malayalam, hindi;
 Button b;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    english=(CheckBox) findViewById(R.id.c1);
    malayalam = (CheckBox) findViewById(R.id.c2);
    hindi = (CheckBox) findViewById(R.id.c3);
    b= (Button) findViewById(R.id.button);
    b.setOnClickListener(new OnClickListener() {
      @Override
      public void onClick(View v) {
        StringBuffer s = new StringBuffer();
        if(english.isChecked()){
           s.append("English");
        if(malayalam.isChecked()){
           s.append("\nMalayalam");
        if(hindi.isChecked()){
           s.append("\nHindi ");
   Toast.makeText(MainActivity.this, s.toString(),Toast.LENGTH LONG).show();
    });
```

```
}
```

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
tools:context=".MainActivity">
 <CheckBox
    android:id="@+id/c1"
    android:text="English" />
 <CheckBox
    android:id="@+id/c2"
    android:text="Malayalam"/>
 <CheckBox
    android:id="@+id/c3"
    android:text="Hindi" />
 <TextView
    android:id="@+id/t1"
    android:text="Languages known:"/>
 <Button
    android:id="@+id/button"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Submit" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Program Number 8

Image View(Write a program to Display images from local drive of the computer)

```
package com.example.imageview;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Button;
import android.widget.ImageView;
import android.view.View;
public class MainActivity extends AppCompatActivity implements
View.OnClickListener {
 Button b1,b2,b3;
 ImageView image;
  @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    addListenerOnButton();
  }
public void addListenerOnButton() {
    image = (ImageView) findViewById(R.id.imageView);
    b1 = (Button) findViewById(R.id.button1);
    b2 = (Button) findViewById(R.id.button2);
    b3 = (Button) findViewById(R.id.button3);
    b1 .setOnClickListener(this);
   b2.setOnClickListener(this);
   b3.setOnClickListener(this);
```

```
@Override
    public void onClick(View v) {
       switch(v.getId()){
           case R.id.button1:
                 image.setBackgroundResource(R.drawable.image1);break;
           case R.id.button2:
                 image.setBackgroundResource(R.drawable.image2);break;
           case R.id.button3:
                 image.setBackgroundResource(R.drawable.image3);break;
           default: break;
     }
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
  tools:context=".MainActivity">
<ImageView
  android:id="@+id/imageView1"
  android:layout width="wrap content"
  android:layout_height="wrap_content"
  android:src="@drawable/inspire" />
<Button
  android:id="@+id/button1"
  android:layout width="wrap content"
  android:layout height="wrap content"
  android:text="Button1"/>
<Button
```

```
android:id="@+id/button2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Button2"/>

<Button
android:id="@+id/button3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Button3"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

List View (Write a program to display the items in a list)

```
package com.example.list;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
   ListView lst;
```

```
String[] months = {"January", "Feb", "March", "April", "May", "June", "July",
"August", "September", "October", "November", "December"};
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    lst = (ListView) findViewById(R.id.!1);
    ArrayAdapter<String> arrayadapter = new ArrayAdapter<String>(this,
android.R.layout.simple list item 1, months);
    lst.setAdapter(arrayadapter);
    lst.setOnItemClickListener(new AdapterView.OnItemClickListener() {
      @Override
public void on Item Click (Adapter View <?> parent, View view, int position, long id)
        TextView tv = (TextView) view;
    Toast.makeText(MainActivity.this,tv.getText(),Toast.LENGTH_LONG).show();
    });
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
 tools:context=".MainActivity">
 <ListView
    android:id="@+id/l1"
    android:layout width="match parent"
```

```
android:layout_height="match_parent"
</androidx.constraintlayout.widget.ConstraintLayout>
```

Fetch data from an EditText and display it in a TextView

```
package com.example.fetch;
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 {
 Button b;
 EditText text1;
 TextView t1;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    b=(Button)findViewById(R.id.button);
    t1=(TextView)findViewById(R.id.t1);
    b.setOnClickListener(new View.OnClickListener() {
      @Override
```

```
public void onClick(View v) {
        text1= (EditText)findViewById(R.id.editText);
        t1.setText(text1.getText().toString());
    });
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
tools:context=".MainActivity">
 <EditText
    android:id="@+id/editText"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:inputType="textPersonName"/>
 <Button
    android:id="@+id/button"
    android:text="Button" />
 <TextView
    android:id="@+id/textView"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Write a program to display the multiplication table of a given number.

```
package com.example.multiplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
 EditText editText;
 Button button;
 TextView result;
 int ans=0;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    editText=(EditText)findViewById(R.id.editText);
    b=(Button)findViewById(R.id.button);
    result=(TextView)findViewById(R.id.textView);
    b.setOnClickListener(new OnClickListener() {
      @Override
      public void onClick(View v) {
         StringBuffer buffer = new StringBuffer();
         String fs=editText.getText().toString();
         int n = Integer.parseInt(fs);
         for (int i = 1; i \le 10; i++) {
           ans = (i * n);
```

```
buffer.append(i + " * " + n + " = " + ans + " \n");
           result.setText(buffer);
   });
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
 tools:context=".MainActivity">
 <TextView
    android:id="@+id/textView"
    android:layout width="wrap content"
    android:layout height="wrap content"/>
 <EditText
    android:id="@+id/editText"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:inputType="number" />
 <Button
    android:id="@+id/button"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Button"/>
```

</androidx.constraintlayout.widget.ConstraintLayout>

Write a program to get IP Address of the device

```
package com.example.getip;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.net.wifi.WifiManager;
import android.text.format.Formatter;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
 Button b;
 TextView textview;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    b=(Button)findViewById(R.id.button);
    b.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        textview = (TextView) findViewById(R.id.textView);
        WifiManager wifiManager =
(WifiManager)getApplicationContext().getSystemService(WIFI SERVICE);
        String ipAddress=
    Formatter.formatlpAddress(wifiManager.getConnectionInfo().getIpAddress());
```

```
textview.setText("Your Device IP Address: " + ipAddress);
   });
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
 tools:context=".MainActivity">
 <Button
    android:id="@+id/button"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Get IP Address"/>
 <TextView
    android:id="@+id/textView"
    android:layout width="wrap content"
    android:layout_height="wrap_content" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Write a program to change the background color of the activity

```
package com.example.backcolor;
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.os.Bundle;
import android.graphics.Color;
import android.view.View;
import android.widget.Button;
import android.widget.RelativeLayout;
public class MainActivity extends AppCompatActivity {
 Button b;
 @Override
 protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity main);
    final RelativeLayout r1 = (RelativeLayout)findViewById(R.id.rl);
    b= (Button)findViewById(R.id.button);
    b.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View arg0) {
        r1.setBackgroundColor(Color.YELLOW);
    });
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
 tools:context=".MainActivity">
 <RelativeLayout
    android:id="@+id/rl"
    android:layout width="match parent"
```

```
android:layout_height="match_parent">

<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Change Background Color" />

</RelativeLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Write a program to change the background image.

```
package com.example.backimage;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import java.util.Random;
import android.view.View;
import android.widget.Button;

public class MainActivity extends AppCompatActivity {
    Button b;
    View screenview;
    int[] images;

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

```
setContentView(R.layout.activity main);
       b=(Button)findViewById(R.id.button);
       screenview=findViewById(R.id.v1);
       images=new int[] {R.drawable.image1, R.drawable.image2);
       b.setOnClickListener(new OnClickListener() {
        @Override
        public void onClick(View v) {
             int arrlength = images.length;
             Random rand = new Random();
             int num = rand.nextInt(arrlength);
             screenview.setBackgroundResource(images[num]);
     });
}
 Activity main.xml
  <?xml version="1.0" encoding="utf-8"?>
 <androidx.constraintlayout.widget.ConstraintLayout
   tools:context=".MainActivity">
 <RelativeLayout
     android:id="@+id/v1"
     android:layout width="match parent"
     android:layout height="match parent">
      <Button
        android:id="@+id/button"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Change Background Image" />
   </RelativeLayout>
```

Write a program to start another activity from your own activity using intent

```
package com.example.intent;
 import androidx.appcompat.app.AppCompatActivity;
 import android.os.Bundle;
 import android.view.View;
 import android.widget.Button;
 import android.content.Intent;
 public class MainActivity extends AppCompatActivity implements
 View.OnClickListener {
   Button b;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
     super.onCreate(savedInstanceState);
     setContentView(R.layout.activity main);
     b=findViewById(R.id.button);
     b.setOnClickListener(this);
@Override
     public void onClick(View v) {
            Intent i=new Intent(MainActivity.this,Main2Activity.class);
             startActivity(i);
```

```
Activity main.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
 android:background="@color/colorPrimary"
 tools:context=".MainActivity">
 <Button
    android:id="@+id/button"
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:text="Goto Second Activity" />
</androidx.constraintlayout.widget.ConstraintLayout>
  Main2Activity.java
  package com.example.intent;
  import androidx.appcompat.app.AppCompatActivity;
  import android.os.Bundle;
  import android.view.View;
  import android.widget.Button;
  import android.content.Intent;
  public class MainActivity extends AppCompatActivity implements
  View.OnClickListener {
   Button b;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
```

```
super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      b=findViewById(R.id.button2);
      b.setOnClickListener(this);
@Override
      public void onClick(View v) {
             Intent i=new Intent(Main2Activity.this,MainActivity.class);
             startActivity(i);
        }
  Activity main2.xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
 android:background="@color/colorAccent"
 tools:context=".MainActivity">
 <Button
    android:id="@+id/button2"
    android:layout width="wrap content"
    android:layout_height="wrap_content"
    android:text="Goto First Activity" />
</androidx.constraintlayout.widget.ConstraintLayout>
```