Develop a program to implement TextView and EditText.

Activity main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    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="#00ffce"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textview1"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Username"
        android:textSize="20dp" />
    <EditText
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:textSize="20dp"
        android:layout marginTop="50dp"
        android:hint="Username"/>
    <TextView
        android:layout width="wrap content"
        android:layout height="match parent"
        android:text="Password"
        android:textSize="30dp"
        android:layout marginTop="150dp"/>
    <EditText
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:textSize="20dp"
        android:layout marginTop="200dp"
        android:hint="Password"/>
</RelativeLayout>
MainActivity.java:-
package com.example.textviewedittext;
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);
}
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.TextViewEditText"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```



Develop a program to implement AutoComplete Text View.

```
Activity main.xml:-
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    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="#00ffce"
    tools:context=".MainActivity">
    <AutoCompleteTextView
        android:id="@+id/auto1"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="100dp"
        android:layout marginLeft="100dp"
        android:hint="Enter Branch"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"/>
</LinearLayout>
MainActivity.java:-
package com.example.autocompletetextview;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
```

```
import android.content.Context;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
public class MainActivity extends AppCompatActivity {
    private String engineering;
    String[] branch=new String[]{"computer", "information
technology", "electrical engineering", "automobile"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        AutoCompleteTextView editText=findViewById(R.id.auto1);
        ArrayAdapter<String> adapter=new
ArrayAdapter<String>(this, android.R.layout.simple list item 1, branch);
        editText.setAdapter(adapter);
```

```
}
```

AndroidMainifest.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.AutocompleteTextView"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```



Develop a program to implement Button ImageButton and Toggle button.

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8" ?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    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:orientation="vertical"
    android:gravity="center">
    <ImageButton</pre>
        android:id="@+id/image"
        android:layout width="330dp"
        android:layout height="285dp"
        android:src="@drawable/bluetooth" />
    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout width="wrap content"
        android:layout marginTop="50dp"
        android:layout height="wrap content"
        android:checked="true" />
    <TextView
        android:id="@+id/textView"
        android:layout width="wrap content"
        android:layout_height="wrap_content"
        android:layout marginTop="30dp"
        android:textColor="#00ffce"
        android:textSize="20sp"
        android:textStyle="bold" />
</LinearLayout>
MainActivity.java:-
package com.example.pract 9;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.CompoundButton;
import android.widget.TextView;
import android.widget.ToggleButton;
public class MainActivity extends AppCompatActivity {
    private ToggleButton toggleButton;
    private TextView textView;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        toggleButton = findViewById(R.id.toggleButton);
        textView = findViewById(R.id.textView);
        toggleButton.setOnCheckedChangeListener(new
CompoundButton.OnCheckedChangeListener()
```

```
@Override
            public void onCheckedChanged(CompoundButton
CompoundButton, boolean b) {
                if(toggleButton.isChecked()) {
                    textView.setText("bluetooth is ON");}
                else {
                    textView.setText("bluetooth is OFF");}}
        });
    } }
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Pract 9"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```



Develop a program to implement AutoComplete Text View.

Activity main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout width="match parent"
    android:orientation="vertical"
    android:layout height="match parent"
    tools:context=".MainActivity">
    <TextView
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Student Login"
        android:textSize="40dp"
        android:layout gravity="center"
        android:textColor="#00ffce" />
    <TextView
        android:id="@+id/Name"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Name"
        android:textSize="20dp"/>
    <EditText
        android:id="@+id/Name ET"
        android:layout width="match parent"
        android:layout height="49dp" />
    <TextView
        android:id="@+id/Age"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Age"
        android:textSize="20dp" />
    <EditText
        android:id="@+id/Age ET"
        android:layout width="match parent"
        android:layout height="49dp" />
    <TextView
        android:id="@+id/Branch"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Branch"
        android:textSize="20dp" />
    <EditText
        android:id="@+id/Branch ET"
        android:layout width="match parent"
        android:layout height="49dp"
        android:inputType="textPersonName" />
    <TextView
        android:id="@+id/Semester"
        android:layout width="wrap content"
```

```
android:layout height="wrap content"
        android:text="Semester"
        android:textSize="20dp" />
    <EditText
        android:id="@+id/Semester ET"
        android:layout width="match parent"
        android:layout height="49dp"
        android:inputType="textPersonName" />
    <Button
        android:id="@+id/Login"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginTop="50dp"
        android:text="Login" />
</LinearLayout>
MainActivity.java:-
package com.example.pract10;
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 android.widget.ToggleButton;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    EditText name et, age et, branch et, sem et;
    String Username, Age, Branch, Semester;
    Button login;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        name et=findViewById(R.id.Name ET);
        age et=findViewById(R.id.Age ET);
        branch et=findViewById(R.id.Branch ET);
        sem et=findViewById(R.id.Semester ET);
        login =findViewById(R.id.Login);
        login.setOnClickListener(new View.OnClickListener()
            public void onClick(View v) {
                Toast.makeText(MainActivity.this, "Login Successfully!!
", Toast. LENGTH SHORT) . show();
        });
```

}

AndroidMainifest.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   xmlns:tools="http://schemas.android.com/tools">
   <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Pract10"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
        </activity>
   </application>
```

Output:-

</manifest>



Develop a program to implement Checkbox.

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout</pre>
    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:text="Kindly Select Books from below"
        app:layout constraintBottom toBottomOf="parent"
        app:layout constraintEnd toEndOf="parent"
        app:layout constraintHorizontal bias="0.434"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"
        app:layout constraintVertical bias="0.054"
        android:textStyle="bold"
        android:textColor="#4A9FEA"
        />
    <CheckBox
        android:id="@+id/checkBox"
        android:layout width="wrap content"
        android:layout_height="wrap content"
        android:layout marginStart="144dp"
        android:layout marginTop="68dp"
        android:text="C"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent" />
    <CheckBox
        android:id="@+id/checkBox2"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="CPP"
        android:layout marginStart="144dp"
        android:layout marginTop="124dp"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"/>
    <CheckBox
        android:id="@+id/checkBox3"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginStart="144dp"
        android:layout marginTop="180dp"
        android:text="JAVA"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent" />
    <CheckBox
```

```
android:id="@+id/checkBox4"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginStart="144dp"
        android:layout marginTop="230dp"
        android:text="DBMS"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent"/>
    <CheckBox
        android:id="@+id/checkBox5"
        android:layout_width="wrap content"
        android:layout height="wrap content"
        android:layout marginStart="144dp"
        android:layout marginTop="290dp"
        android:text="ANDROID"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toTopOf="parent" />
    <Button
        android:id="@+id/button"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout marginLeft="116dp"
        android:text="Order Selected Books"
        android:textStyle="bold"
        app:layout constraintStart toStartOf="parent"
        app:layout constraintTop toBottomOf="@+id/checkBox5"
</androidx.constraintlayout.widget.ConstraintLayout>
MainActivity.java:-
package com.example.pract11;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    CheckBox C, CPP, JAVA, DBMS, ANDROID;
    Button order;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        addListenerOnButtonClick();
    public void addListenerOnButtonClick() {
        C= (CheckBox) findViewById(R.id.checkBox);
```

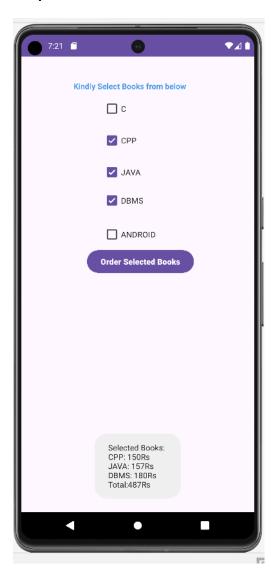
CPP= (CheckBox) findViewById (R.id.checkBox2);
JAVA= (CheckBox) findViewById (R.id.checkBox3);
DBMS= (CheckBox) findViewById (R.id.checkBox4);
ANDROID= (CheckBox) findViewById (R.id.checkBox5);

order=(Button)findViewById(R.id.button);

order.setOnClickListener(new View.OnClickListener() {

```
public void onClick(View view) {
                int total=0;
                StringBuilder result=new StringBuilder();
                result.append("Selected Books:");
                if(C.isChecked())
                    result.append("\nC 130Rs");
                    total=total+130;
                if(CPP.isChecked())
                    result.append("\nCPP: 150Rs");
                    total=total+150;
                if(JAVA.isChecked())
                    result.append("\nJAVA: 157Rs");
                    total=total+157;
                if(DBMS.isChecked())
                    result.append("\nDBMS: 180Rs");
                    total=total+180;
                if(ANDROID.isChecked())
                    result.append("\nANDRIOD: 200Rs");
                    total=total+200;
                result.append("\nTotal:"+total+"Rs");
Toast.makeText(getApplicationContext(),result.toString(),Toast.LENGTH LONG).s
how();
        });
   }
}
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Pract11"
        tools:targetApi="31">
        <activity
```

@Override



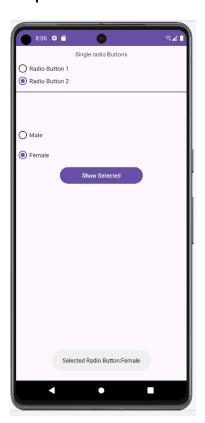
Develop a program to implement Radio Button and Radio Group.

Activity main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLavout
    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="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="10dp"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/tv1"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout alignParentTop="true"
        android:layout centerHorizontal="true"
        android:gravity="center"
        android:text="Single radio Buttons" />
    < Radio Group
        android:id="@+id/radiogrp2"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout centerHorizontal="true"
        android:gravity="center"
        android:orientation="vertical"
        android:layout marginTop="160dp"
        android:text="Radio Button Inside RadioGroup" />
    < Radio Button
        android:id="@+id/rb1"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout weight="2"
        android:text="Radio Button 1"
        android:layout marginTop="20dp" />
    < Radio Button
        android:id="@+id/rb2"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout weight="2"
        android:text="Radio Button 2"
        android:layout marginTop="50dp" />
    <View
        android:layout width="match parent"
        android:layout height="1dp"
        android:background="@color/black"
        android:layout marginTop="100dp"/>
    <RadioGroup
        android:id="@+id/radiogrp1"
        android:layout width="match parent"
        android:layout height="wrap content"
```

```
android:layout below="@+id/radiogrp2"
        android:layout marginTop="20dp"
        android:orientation="vertical">
        <RadioButton
            android:id="@+id/rb3"
            android:layout width="wrap content"
            android:layout height="wrap content"
            android:layout weight="1"
            android:text="Male" />
        <RadioButton
            android:id="@+id/rb4"
            android:layout width="wrap content"
            android:layout height="wrap content"
            android:layout weight="1"
            android:text="Female">
        </RadioButton>
    </RadioGroup>
    <Button
        android:id="@+id/button"
        android:layout width="200dp"
        android:layout height="wrap content"
        android:layout below="@+id/radiogrp1"
        android:layout marginTop="1dp"
        android:layout centerHorizontal="true"
        android:layout weight="1"
        android:gravity="center"
        android:text="Show Selected" />
</RelativeLayout>
MainActivity.java:-
package com.example.pract12;
import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import android.widget.RadioGroup;
import android.widget.RadioButton;
public class MainActivity extends AppCompatActivity {
    RadioGroup rgb, rgb1;
    RadioButton rb;
    Button btn;
    @SuppressLint("MissingInflatedId")
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        btn=(Button)findViewById(R.id.button);
        rgb1=(RadioGroup) findViewById(R.id.radiogrp2);
        rgb=(RadioGroup) findViewById(R.id.radiogrp1);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                rb=(RadioButton)findViewById(rgb.getCheckedRadioButtonId());
                String a=rb.getText().toString();
                Toast.makeText(MainActivity.this, "Selected Radio
```

```
Button:"+a, Toast.LENGTH LONG).show();}
        });
    } }
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Pract12"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```



Develop a program to implement Progress Bar.

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"
    tools:context=".MainActivity" >
    <ProgressBar
        android:id="@+id/progressBar"
        style="?android:attr/progressBarStyleHorizontal"
        android:layout width="343dp"
        android:layout height="66dp"
        android:layout alignParentLeft="true"
        android:layout alignParentTop="true"
        android:layout marginLeft="33dp"
        android:layout marginTop="508dp"
        android:indeterminate="false"
        android:max="100"
        android:minWidth="200dp"
        android:minHeight="50dp"
        android:progress="1" />
    <ProgressBar
        android:id="@+id/progressBar_cyclic"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout centerInParent="true"
        android:minWidth="50dp"
        android:minHeight="50dp" />
    <TextView
        android:id="@+id/textView"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout below="@+id/progressBar"
        android:layout alignLeft="@+id/progressBar"
        android:layout marginLeft="122dp"
        android:layout marginTop="-100dp"/>
</RelativeLayout>
MainActivity.java:-
package com.example.pract13;
import android.os.Bundle;
import android.os.Handler;
import android.widget.ProgressBar;
```

```
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private ProgressBar progressBar;
    private int progressStatus = 0;
    private TextView textView;
    private Handler handler = new Handler();
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        progressBar = (ProgressBar) findViewById(R.id.progressBar);
        textView = (TextView) findViewById(R.id.textView);
        // Start long running operation in a background thread
        new Thread(new Runnable() {
            public void run() {
                while (progressStatus < 100) {</pre>
                    progressStatus += 1;
                    // Update the progress bar and display the
                    //current value in the text view
                    handler.post(new Runnable() {
                        public void run() {
                            progressBar.setProgress(progressStatus);
textView.setText(progressStatus+"/"+progressBar.getMax());
                    });
                    try {
                        // Sleep for 200 milliseconds.
                        Thread. sleep (200);
                    } catch (InterruptedException e) {
                        e.printStackTrace();
                }
        }).start();
}
AndroidMainifest.xml:-
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
```



Develop a program to implement List View.

Activity_main.xml:-

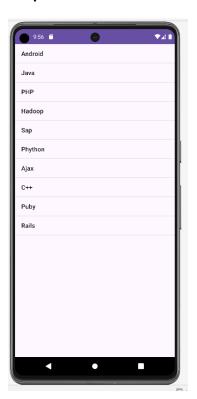
```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout width="match parent"
    android:layout height="match parent"
    tools:context=".MainActivity"
    tools:ignore="ResAuto">
    <ListView
        android:layout width="match parent"
        android:layout height="match parent"
        android:entries="@array/Language list" />
</RelativeLayout>
Strings.xml:-
```

```
<resources>
    <string name="app name">pra 14</string>
    <array name="Language list">
        <item>Android</item>
        <item>Java</item>
        <item>PHP</item>
        <item>Hadoop</item>
        <item>Sap</item>
        <item>Phython</item>
        <item>Ajax</item>
        <item>C++</item>
        <item>Puby</item>
        <item>Rails</item>
    </array>
</resources>
```

MainActivity.java:-

```
package com.example.pract14;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```
setContentView(R.layout.activity main);
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Pract14"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```



Develop a program to implement Image View.

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLavout
    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="wrap content"
    android:layout height="wrap content"
    android:layout centerHorizontal="true"
    tools:context=".MainActivity">
    <ImageView</pre>
        android:id="@+id/image1"
        android:layout width="match parent"
        android:layout height="345dp"
        android:layout centerHorizontal="true"
        tools:srcCompat="@drawable/bunch" />
    <Button
        android:id="@+id/button"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:layout below="@+id/image1"
        android:layout centerHorizontal="true"
        android:text="Change Image" />
</RelativeLayout>
MainActivity.java:-
<?xml version="1.0" encoding="utf-8"?>
<RelativeLavout
    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="wrap content"
    android:layout height="wrap content"
    android:layout centerHorizontal="true"
    tools:context=".MainActivity">
    <ImageView</pre>
        android:id="@+id/image1"
        android:layout width="match parent"
        android:layout height="345dp"
        android:layout centerHorizontal="true"
        tools:srcCompat="@drawable/bunch" />
    <Button
        android:id="@+id/button"
        android:layout width="wrap content"
```

```
android:layout height="wrap_content"
        android:layout below="@+id/image1"
        android:layout centerHorizontal="true"
        android:text="Change Image" />
</RelativeLayout>
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android: theme="@style/Theme.Pract14imageview"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
```

</manifest>

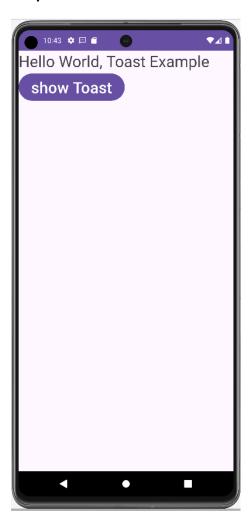


Develop a program to implement Custom Toast Alert.

Activity main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    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:orientation="vertical">
    <TextView
        android:id="@+id/textview"
        android:layout_width="wrap_content"
        android:layout height="wrap content"
        android:text="Hello World, Toast Example"
        android:textSize="30sp" />
    <Button
        android:id="@+id/button"
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:onClick="show"
        android:text="show Toast"
        android:textSize="30sp"/>
</LinearLayout>
MainActivity.java:-
public class MainActivity extends AppCompatActivity {
    Button btn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
    public void addListenerOnButtonClick() {
        btn = (Button) findViewById(R.id.button);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(MainActivity.this, "Message For You: you have
got mail!", Toast.LENGTH SHORT).show();
       });
    }
}
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
```

```
<application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Pract15"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```



Develop a program to implement Date and Time Picker.

Activity_main.xml:-

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    android:layout width="match parent"
    android:layout height="match parent"
    android:orientation="vertical">
    <TimePicker
        android:id="@+id/tpp"
        android:layout width="wrap content"
        android:layout height="200dp"
        android:timePickerMode="spinner" />
    <DatePicker
        android:layout width="match parent"
        android:layout height="450dp"/>
</LinearLayout>
MainActivity.java:-
package com.example.pract16;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class MainActivity extends AppCompatActivity {
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
}
AndroidMainifest.xml:-
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"</pre>
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data extraction rules"
        android:fullBackupContent="@xml/backup rules"
        android:icon="@mipmap/ic launcher"
        android:label="@string/app name"
        android:roundIcon="@mipmap/ic launcher round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Pract16"
        tools:targetApi="31">
```

