

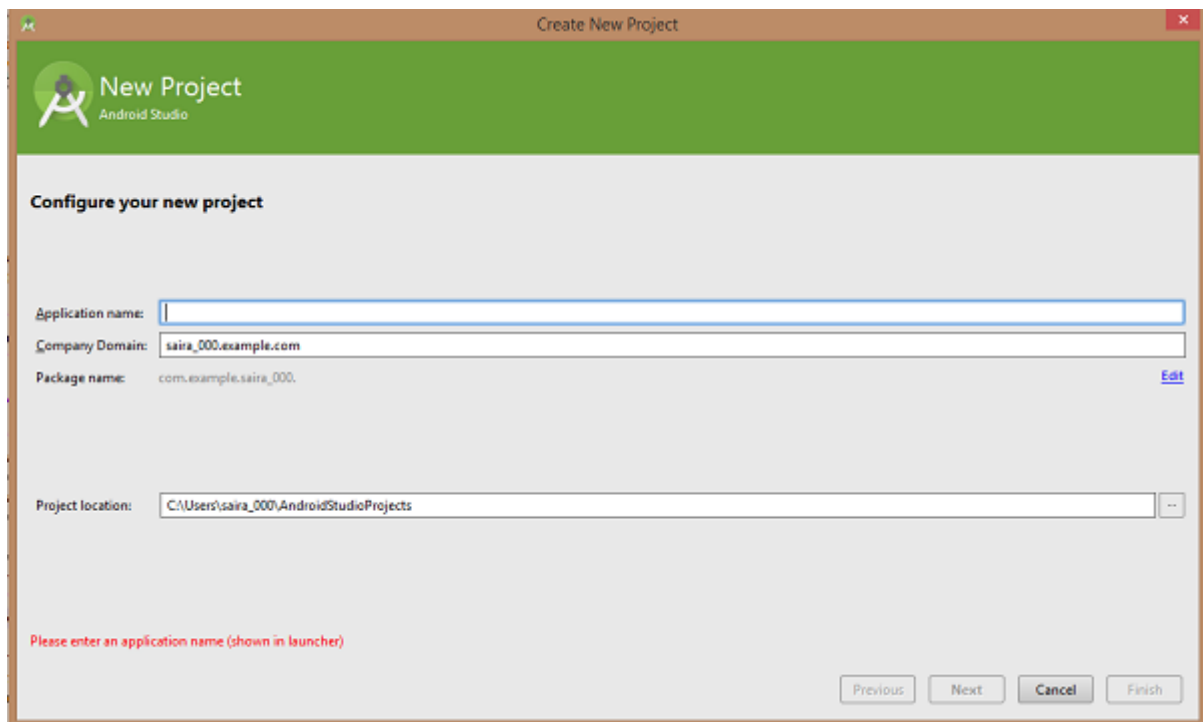
Practical no 1

Create Android Application

The first step is to create a simple Android Application using Android studio. When you click on Android studio icon, it will show screen as shown below



You can start your application development by calling start a new android studio project. in a new installation frame should ask Application name, package information and location of the project. –



Create New Project

New Project

Android Studio

Configure your new project

Application name:

Company Domain:

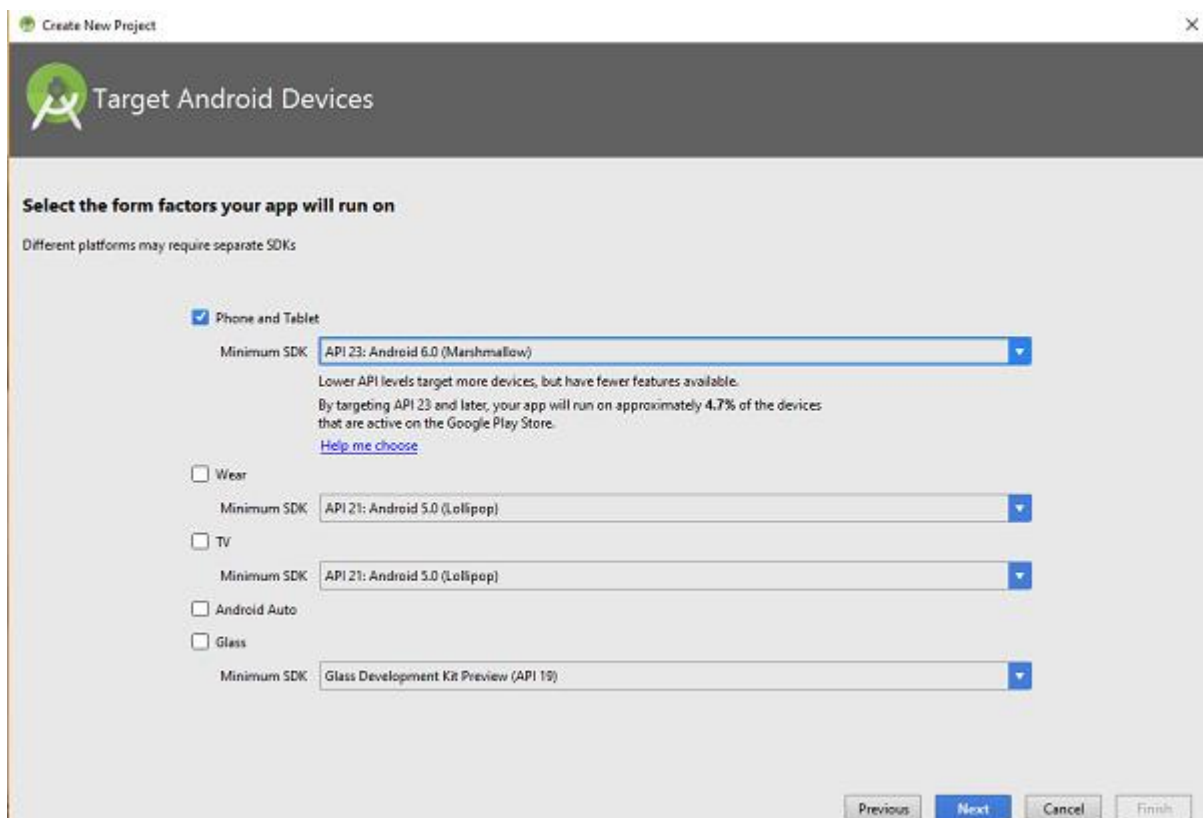
Package name: [Edit](#)

Project location: [...](#)

Please enter an application name (shown in launcher)

[Previous](#) [Next](#) [Cancel](#) [Finish](#)

After entered application name, it going to be called select the form factors your application runs on, here need to specify Minimum SDK, in our tutorial, I have declared as API23: Android 6.0(Mashmallow) –



Create New Project

Target Android Devices

Select the form factors your app will run on

Different platforms may require separate SDKs

☒ Phone and Tablet

Minimum SDK:

Lower API levels target more devices, but have fewer features available.
By targeting API 23 and later, your app will run on approximately 4.7% of the devices that are active on the Google Play Store.
[Help me choose](#)

☐ Wear

Minimum SDK:

☐ TV

Minimum SDK:

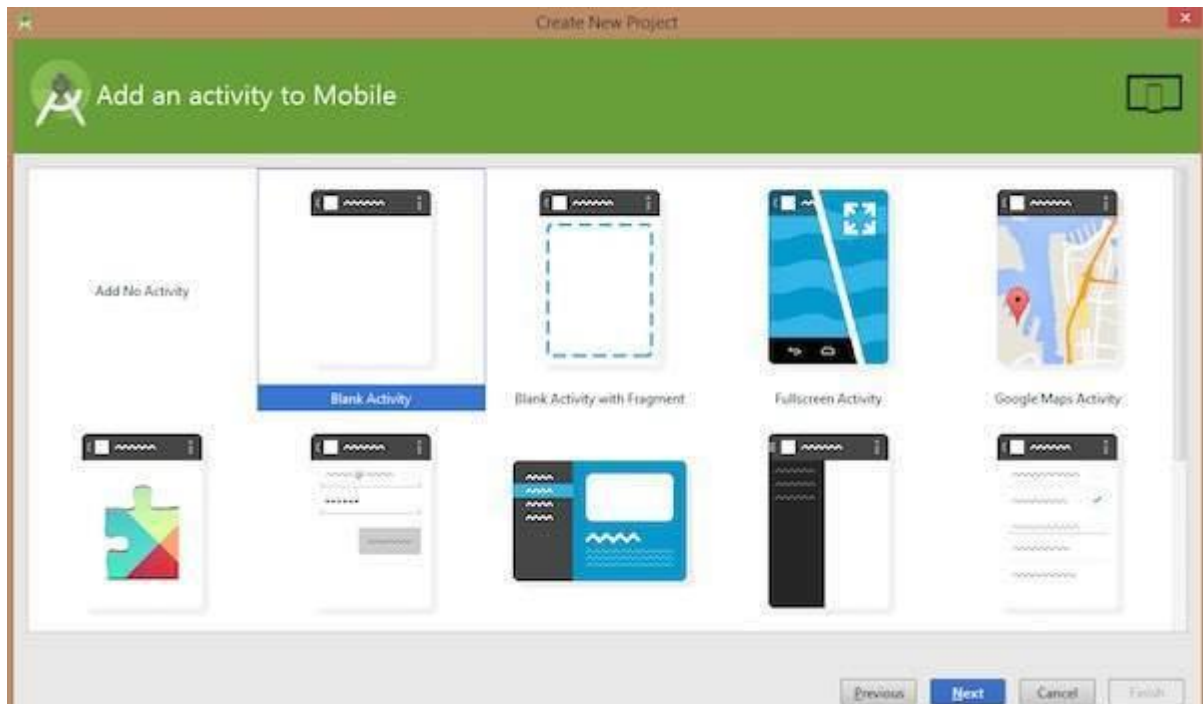
☐ Android Auto

☐ Glass

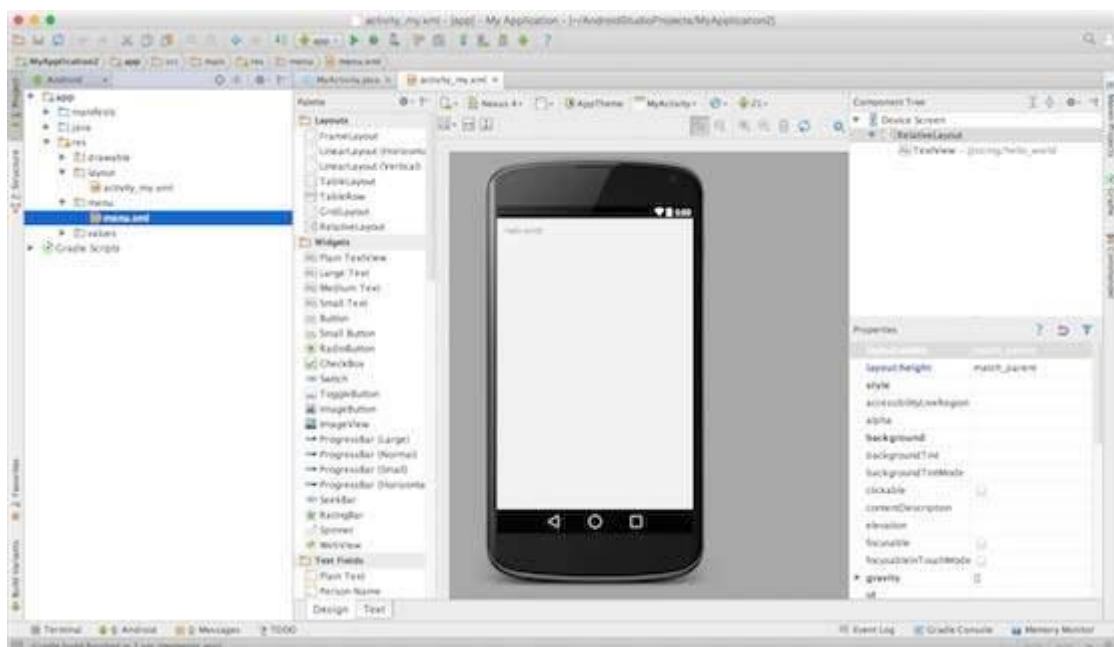
Minimum SDK:

[Previous](#) [Next](#) [Cancel](#) [Finish](#)

The next level of installation should contain selecting the activity to mobile, it specifies the default layout for Applications.



At the final stage it going to be open development tool to write the application code.



Practical no 2 : Button and toggle button

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

```
<androidx.constraintlayout.widget.ConstraintLayout
```

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

```
    xmlns:app="http://schemas.android.com/apk/res-auto"
```

```
    xmlns:tools="http://schemas.android.com/tools"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
```

```
    android:background="#168BC34A"
```

```
    tools:context=".MainActivity">
```

```
    <!-- Button added in the activity -->
```

```
    <Button
```

```
        android:id="@+id/button"
```

```
        android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
```

```
        android:background="#4CAF50"
```

```
        android:paddingStart="10dp"
```

```
        android:paddingEnd="10dp"
```

```
        android:text="@string/btn"
```

```
        android:textColor="@android:color/background_light"
```

```
        android:textSize="24sp"
```

```
        app:layout_constraintBottom_toBottomOf="parent"
```

```
        app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintStart_toStartOf="parent"
```

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

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

```

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;


public class MainActivity extends AppCompatActivity {

    @Override

    protected void onCreate( Bundle savedInstanceState ) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);


        // storing ID of the button

        // in a variable

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


        // operations to be performed

        // when user tap on the button

        if (button != null) {

            button.setOnClickListener((View.OnClickListener)(new
View.OnClickListener() {

                public final void onClick(View it) {

                    // displaying a toast message

                    Toast.makeText((Context)MainActivity.this,
R.string.message, Toast.LENGTH_LONG).show());

```

```

        }
    });
}
}
}

```

Toggle Button :

<RelativeLayout

```

    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    android:background="@color/white"
    tools:context=".MainActivity">

```

<ToggleButton

```

    android:id="@+id/toggleButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_centerVertical="true"
    android:onClick="onToggleClick"
    />

```

<TextView

```
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="100dp"
        android:layout_centerVertical="true"
        android:layout_centerHorizontal="true"
        android:layout_above="@+id/toggleButton"
        android:textStyle="bold"
        android:textColor="@color/black"/>
</RelativeLayout>
```

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.TextView;
import android.widget.ToggleButton;
```

```
public class MainActivity
    extends AppCompatActivity {

    ToggleButton togglebutton;
    TextView textview;

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

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

```
togglebutton
```

```
    = (ToggleButton)findViewById(  
        R.id.toggleButton);
```

```
textView
```

```
    = (TextView)findViewById(  
        R.id.textView);
```

```
}
```

```
public void onToggleClick(View view)
```

```
{
```

```
    if (togglebutton.isChecked()) {
```

```
        textView.setText("Toggle is ON");
```

```
    }
```

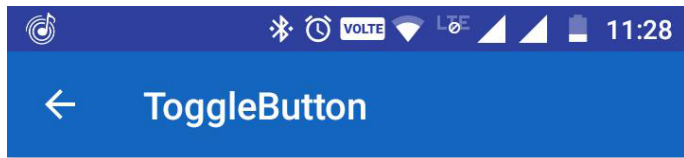
```
    else {
```

```
        textView.setText("Toggle is OFF");
```

```
    }
```

```
}
```

```
}
```

OFF



Toggle is ON

ON

Toggle is OFF

OFF

Practical no 3 : Toast Message

```
import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.Toast;


public class MainActivity extends AppCompatActivity {

    // Defining the object for button

    Button btn;


    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);


        // Bind the components to their respective objects by assigning
        // their IDs with the help of findViewById() method
        Button btn = (Button)findViewById(R.id.Button01);


        btn.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                // Displaying simple Toast message

                Toast.makeText(getApplicationContext(), "This a toast
message", Toast.LENGTH_LONG).show();

            }

        });

    }

}
```

```
}
```

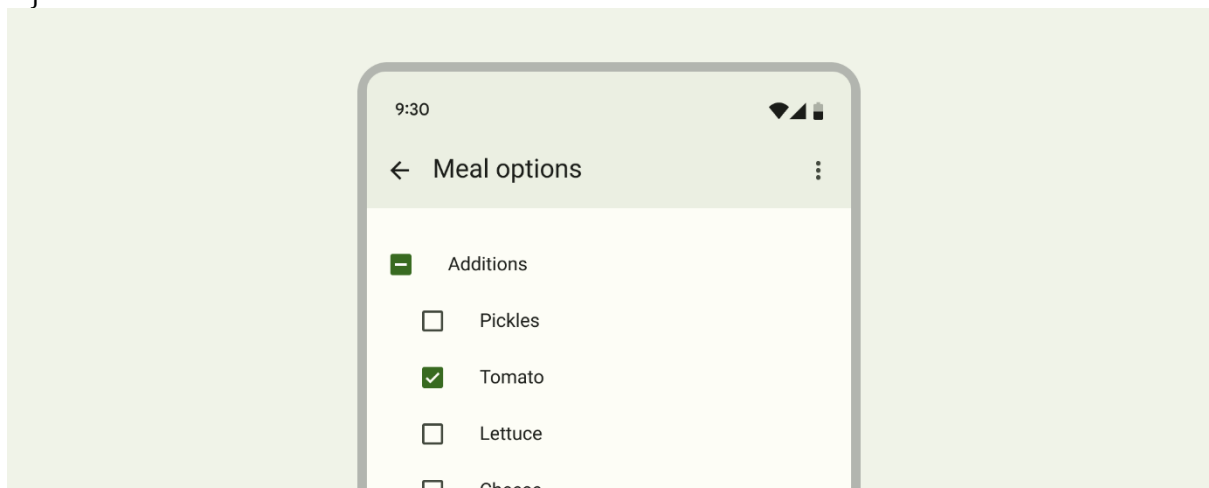


Practical 4

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <CheckBox android:id="@+id/checkbox_meat"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Meat" />
    <CheckBox android:id="@+id/checkbox_cheese"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Cheese" />
</LinearLayout>
```

```
findViewById<CheckBox>(R.id.checkbox_meat)
    .setOnCheckedChangeListener { buttonView, isChecked ->
        Log.d("CHECKBOXES", "Meat is checked: $isChecked");
    }
```

```
findViewById<CheckBox>(R.id.checkbox_cheese)
    .setOnCheckedChangeListener { buttonView, isChecked ->
        Log.d("CHECKBOXES", "Cheese is checked: $isChecked");
    }
```



Alert Dialogue Box

```
import android.content.DialogInterface;
```

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

```
import androidx.appcompat.app.AlertDialog;
```

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

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

```
    @Override
```

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

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

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

```
    }
```

```
    // Declare the onBackPressed method when the back button is pressed this method will call
```

```
    @Override
```

```
    public void onBackPressed() {
```

```
        // Create the object of AlertDialog Builder class
```

```
        AlertDialog.Builder builder = new AlertDialog.Builder(MainActivity.this);
```

```
        // Set the message show for the Alert time
```

```
        builder.setMessage("Do you want to exit ?");
```

```
        // Set Alert Title
```

```
        builder.setTitle("Alert !");
```

```
        // Set Cancelable false for when the user clicks on the outside the Dialog Box then it  
        will remain show
```

```
        builder.setCancelable(false);
```

// Set the positive button with yes name Lambda OnClickListener method is use of DialogInterface interface.

```
builder.setPositiveButton("Yes", (DialogInterface.OnClickListener) (dialog, which) -> {  
    // When the user click yes button then app will close  
    finish();  
});
```

// Set the Negative button with No name Lambda OnClickListener method is use of DialogInterface interface.

```
builder.setNegativeButton("No", (DialogInterface.OnClickListener) (dialog, which) -> {  
    // If user click no then dialog box is canceled.  
    dialog.cancel();  
});
```

// Create the Alert dialog

```
AlertDialog alertDialog = builder.create();
```

// Show the Alert Dialog box

```
alertDialog.show();
```

```
}
```

```
}
```


Alert Dialog

**Press The Back Button of
Your Phone.**

Alert Dialog

Alert !

Do you want to exit ?

NO

YES

Practical No 5 Spinner

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

```
<!--Constraint layout which contain Spinner widget-->
```

```
<android.support.constraint.ConstraintLayout
```

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

```
    xmlns:app="http://schemas.android.com/apk/res-auto"
```

```
    xmlns:tools="http://schemas.android.com/tools"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
```

```
    tools:context="com.geeksforgeeks.Spinner.MainActivity">
```

```
    <!--Spinner widget-->
```

```
    <Spinner
```

```
        android:id="@+id/coursesspinner"
```

```
        android:layout_height="50dp"
```

```
        android:layout_width="160dp"
```

```
        android:layout_marginEnd="10dp"
```

```
        android:layout_marginStart="10dp"
```

```
        android:layout_marginBottom="10dp"
```

```
        android:layout_marginTop="10dp"
```

```
        app:layout_constraintStart_toStartOf="parent"
```

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

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

```
import android.support.v7.app.AppCompatActivity;
```

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

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

```

import android.os.Bundle;

import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.AdapterView.OnItemSelectedListener;
import android.widget.AdapterView.OnItemSelectedListener;

import android.os.Bundle;

// Main Activity implements Adapter view
public class MainActivity
    extends AppCompatActivity
    implements AdapterView.OnItemClickListener {

    // create array of Strings
    // and store name of courses
    String[] courses = { "C", "Data structures",
                        "Interview prep", "Algorithms",
                        "DSA with java", "OS" };

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

        // Take the instance of Spinner and
        // apply OnItemSelectedListener on it which
        // tells which item of spinner is clicked
        Spinner spino = findViewById(R.id.coursesspinner);
        spin.setOnItemSelectedListener(this);

        // Create the instance of ArrayAdapter
        // having the list of courses
        ArrayAdapter ad

```

```

        = new ArrayAdapter(
            this,
            android.R.layout.simple_spinner_item,
            courses);

// set simple layout resource file
// for each item of spinner
ad.setDropDownViewResource(
    android.R.layout
        .simple_spinner_dropdown_item);

// Set the ArrayAdapter (ad) data on the
// Spinner which binds data to spinner
spino.setAdapter(ad);
}

// Performing action when ItemSelected
// from spinner, Overriding onItemSelected method
@Override
public void onItemSelected(AdapterView<*> arg0,
                            View arg1,
                            int position,
                            long id)
{

    // make toast of name of course
    // which is selected in spinner
    Toast.makeText(getApplicationContext(),
                    courses[position],
                    Toast.LENGTH_LONG)
        .show();
}

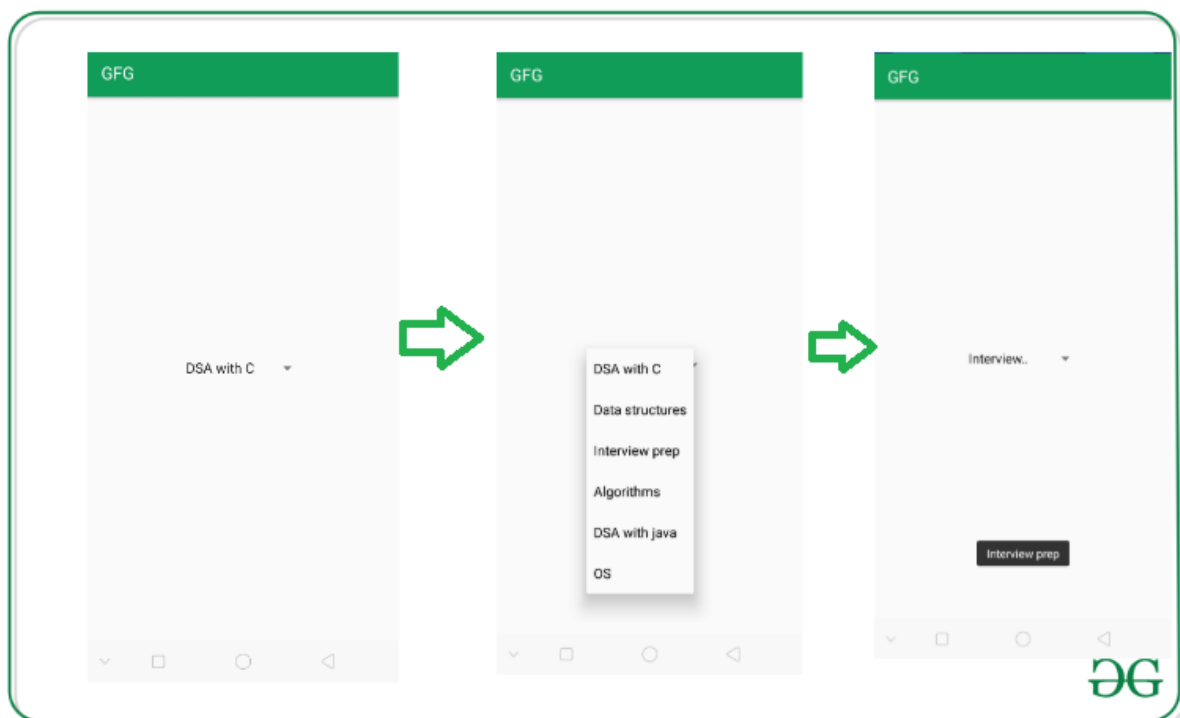
```

```

    }

    @Override
    public void onNothingSelected(AdapterView<*> arg0)
    {
        // Auto-generated method stub
    }
}

```



Auto Complete Text View

1. `<?xml version="1.0" encoding="utf-8"?>`
 2. `<android.support.constraint.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"`
 3. `xmlns:app="http://schemas.android.com/apk/res-auto"`
 4. `xmlns:tools="http://schemas.android.com/tools"`
 5. `android:layout_width="match_parent"`
 6. `android:layout_height="match_parent"`
 7. `tools:context="example.javatpoint.com.autocompletetextview.MainActivity"`
- >

```

8.
9.   <TextView
10.    android:layout_width="wrap_content"
11.    android:layout_height="wrap_content"
12.    android:text="What is your favourite programming language?"
13.    app:layout_constraintBottom_toBottomOf="parent"
14.    app:layout_constraintLeft_toLeftOf="parent"
15.    app:layout_constraintRight_toRightOf="parent"
16.    app:layout_constraintTop_toTopOf="parent"
17.    app:layout_constraintVertical_bias="0.032" />
18.
19.   <AutoCompleteTextView
20.    android:id="@+id/autoCompleteTextView"
21.    android:layout_width="200dp"
22.    android:layout_height="wrap_content"
23.    android:layout_marginLeft="92dp"
24.    android:layout_marginTop="144dp"
25.    android:text=""
26.    app:layout_constraintStart_toStartOf="parent"
27.    app:layout_constraintTop_toTopOf="parent" />
28.
29. </android.support.constraint.ConstraintLayout>

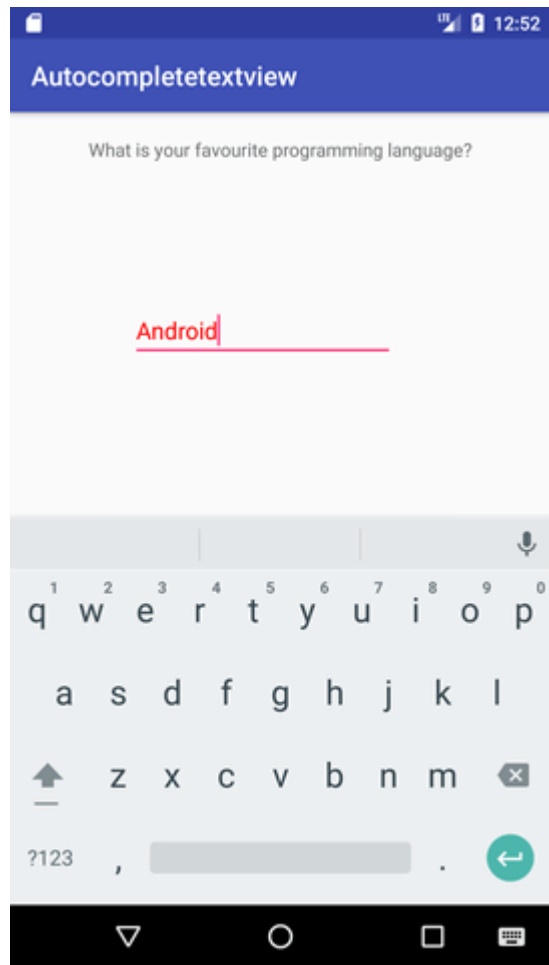
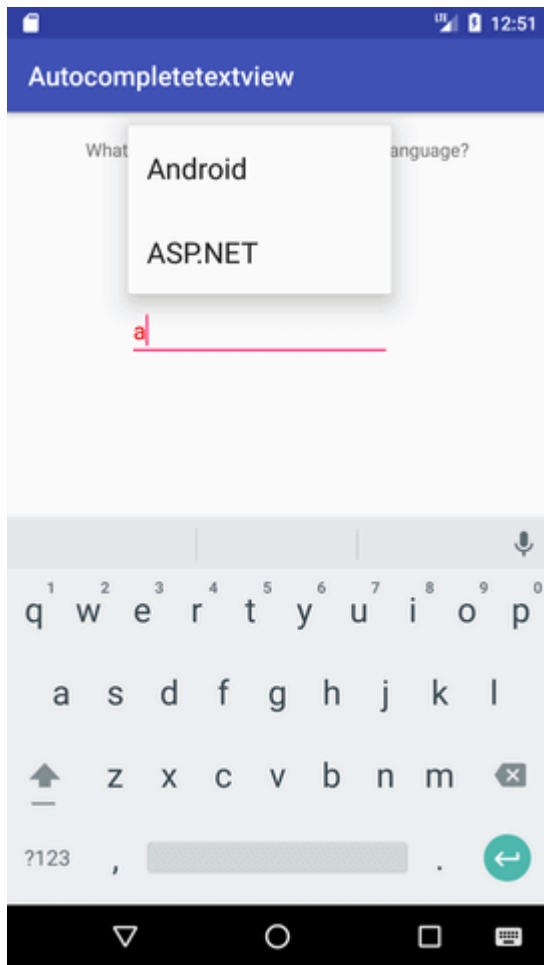
```

```

1. package example.javatpoint.com.autocompletetextview;
2.
3. import android.graphics.Color;
4. import android.support.v7.app.AppCompatActivity;
5. import android.os.Bundle;
6. import android.widget.ArrayAdapter;
7. import android.widget.AutoCompleteTextView;
8.
9. public class MainActivity extends AppCompatActivity {
10.     String[] language = {"C", "C++", "Java", ".NET", "iPhone", "Android", "ASP.NET", "
    PHP"};
11.     @Override

```

```
12. protected void onCreate(Bundle savedInstanceState) {
13.     super.onCreate(savedInstanceState);
14.     setContentView(R.layout.activity_main);
15.     //Creating the instance of ArrayAdapter containing list of language name
        s
16.     ArrayAdapter<String> adapter = new ArrayAdapter<String>
17.         (this,android.R.layout.select_dialog_item,language);
18.     //Getting the instance of AutoCompleteTextView
19.     AutoCompleteTextView actv = (AutoCompleteTextView)findViewById(R.i
        d.autoCompleteTextView);
20.     actv.setThreshold(1);//will start working from first character
21.     actv.setAdapter(adapter);//setting the adapter data into the AutoComple
        eTextView
22.     actv.setTextColor(Color.RED);
23. }
24. }
```



Practical No 6 Calculator in android

```
<TableLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:columnCount="2"
    android:paddingBottom="@dimen/activity_vertical_margin"
    android:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    tools:context=".MainActivity" >

    <EditText
        android:id="@+id/textView1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text=""
        android:textSize="30sp" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="TextView"
        android:textSize="30sp" />

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="40dp"
        android:layout_weight="0.29" >

        <Button
            android:id="@+id/add"
            android:layout_width="80dp"
            android:layout_height="wrap_content"
            android:text="+"
            android:textSize="20dp" >

        </Button>

        <Button
            android:id="@+id/sub"
            android:layout_width="80dp"
```

```
android:layout_height="wrap_content"
android:layout_alignBaseline="@+id/button1"
android:layout_alignBottom="@+id/button1"
android:layout_centerHorizontal="true"
android:text="-" />
```

<Button

```
android:id="@+id/mul"
android:layout_width="80dp"
android:layout_height="wrap_content"
android:layout_alignBaseline="@+id/button2"
android:layout_alignBottom="@+id/button2"
android:layout_alignParentRight="true"
android:text="X" />
```

<Button

```
android:id="@+id/calculate"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_alignParentBottom="true"
android:layout_alignParentRight="true"
android:layout_marginBottom="64dp"
android:textAlignment="center"
android:text="Calculate" />
```

<Button

```
android:id="@+id/color"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_alignParentBottom="true"
android:layout_alignParentRight="true"
android:text="ChangeColor"
android:textAlignment="center"/>
```

<Button

```
android:id="@+id/divide"
android:layout_width="80dp"
android:layout_height="wrap_content"
android:layout_alignParentLeft="true"
android:layout_below="@+id/add"
android:layout_marginTop="47dp"
android:text="/" />
```

<Button

```
android:id="@+id/log"
android:layout_width="80dp"
```

```

        android:layout_height="wrap_content"
        android:layout_alignBaseline="@+id/divide"
        android:layout_alignBottom="@+id/divide"
        android:layout_alignLeft="@+id/sub"
        android:text="log" />

<Button
    android:id="@+id/clear"
    android:layout_width="80dp"
    android:layout_height="wrap_content"
    android:layout_alignBaseline="@+id/log"
    android:layout_alignBottom="@+id/log"
    android:layout_alignParentRight="true"
    android:text="C" />

</RelativeLayout>

</TableLayout>

```

```

package com.example.calculator;

import android.R.color;
import android.os.Bundle;
import android.app.Activity;
import android.view.Menu;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends Activity implements OnClickListener {

    TextView disp, res;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        disp = (TextView) findViewById(R.id.textView1);
        res = (TextView) findViewById(R.id.textView2);
        Button add = (Button) findViewById(R.id.add);
        Button mul = (Button) findViewById(R.id.mul);
        Button divide = (Button) findViewById(R.id.divide);
    }
}

```

```

        Button sub = (Button) findViewById(R.id.sub);
        Button log = (Button) findViewById(R.id.log);
        Button clear = (Button) findViewById(R.id.clear);
        Button calc = (Button) findViewById(R.id.calculate);
        Button change = (Button) findViewById(R.id.color);

        add.setOnClickListener(this);
        mul.setOnClickListener(this);
        divide.setOnClickListener(this);
        sub.setOnClickListener(this);
        log.setOnClickListener(this);
        clear.setOnClickListener(this);
        calc.setOnClickListener(this);
        change.setOnClickListener(this);

    }

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

    @Override
    public void onClick(View v) {
        // TODO Auto-generated method stub
        float result = 0, num1, num2;
        Toast var;
        switch (v.getId()) {
            case R.id.add:
                String str =(String) disp.getText();
                num1 = Integer.parseInt(str);
                disp.setText("");
                var = Toast.makeText(MainActivity.this, "Enter other number",
                    Toast.LENGTH_SHORT);
                var.show();
                str=(String) disp.getText();
                num2 = Integer.parseInt(str);
                result = num1 + num2;
                break;

            case R.id.sub:
                num1 = Integer.parseInt((String) disp.getText());
                disp.setText("");
                var = Toast.makeText(MainActivity.this, "Enter other number",

```

```

        Toast.LENGTH_SHORT);
    var.show();
    num2 = Integer.parseInt((String) disp.getText());
    result = num1 - num2;
    break;
case R.id.mul:
    num1 = Integer.parseInt((String) disp.getText());
    disp.setText("");
    var = Toast.makeText(MainActivity.this, "Enter other number",
        Toast.LENGTH_SHORT);
    var.show();
    num2 = Integer.parseInt((String) disp.getText());
    result = num1 * num2;
    break;
case R.id.divide:
    num1 = Integer.parseInt((String) disp.getText());
    disp.setText("");
    var = Toast.makeText(MainActivity.this, "Enter other number",
        Toast.LENGTH_SHORT);
    var.show();
    num2 = Integer.parseInt((String) disp.getText());
    result = num1 / num2;
    break;
case R.id.log:
    num1 = Integer.parseInt((String) disp.getText());
    result = (float) Math.log(num1);
    break;
case R.id.clear:
    disp.setText("");
    res.setText("");
    break;
case R.id.color:
    int rand = (int) ((Math.random() * 10) % 3);
    Button b1 = (Button) findViewById(R.id.add);
    Button b2 = (Button) findViewById(R.id.mul);
    Button b3 = (Button) findViewById(R.id.divide);
    Button b4 = (Button) findViewById(R.id.sub);
    Button b5 = (Button) findViewById(R.id.log);
    Button b6 = (Button) findViewById(R.id.clear);
    Button b7 = (Button) findViewById(R.id.calculate);
    Button b8 = (Button) findViewById(R.id.color);

    rand = 2;
    switch (rand) {
    case 0:
        b1.setTextColor(color.holo_blue_bright);

```

```

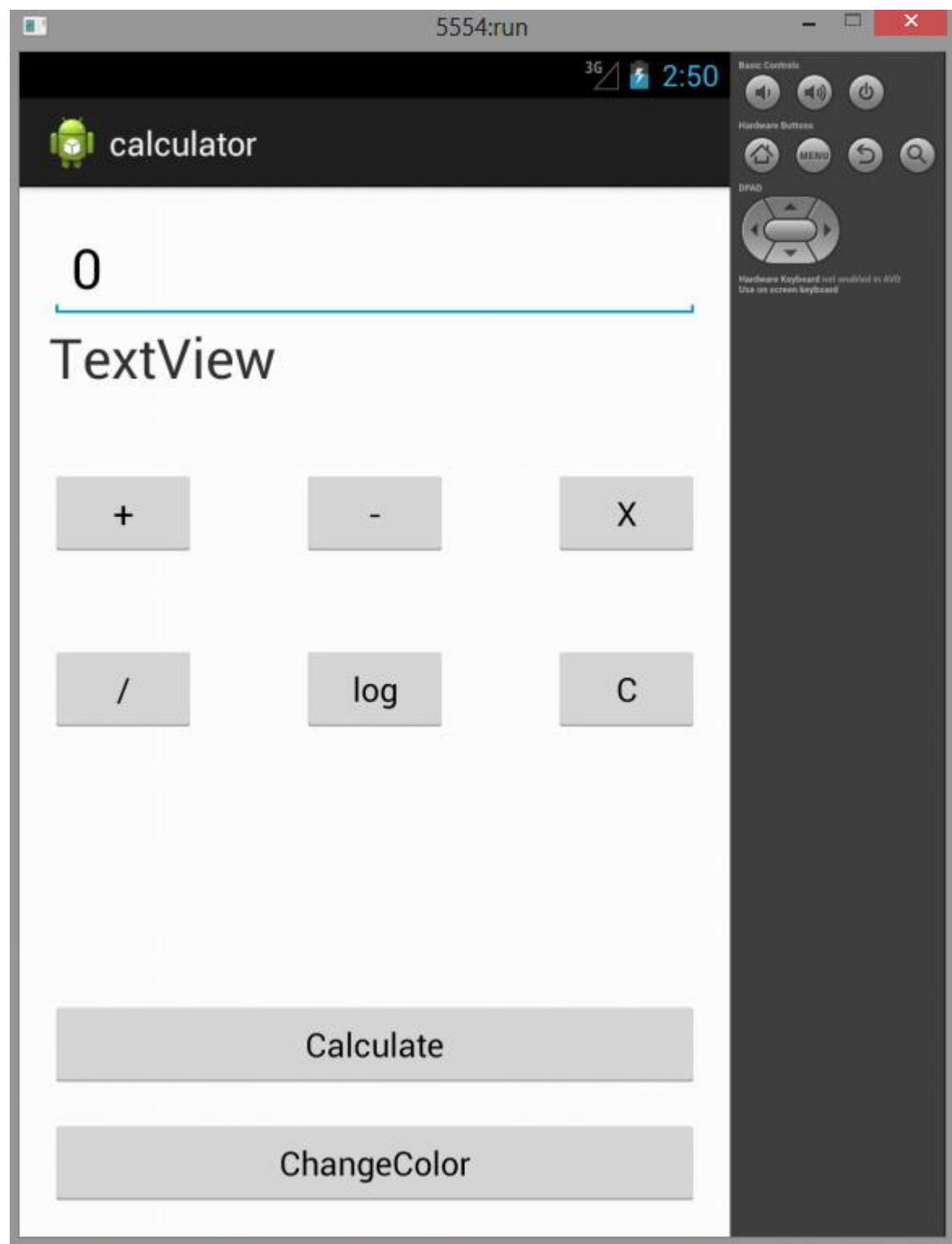
        b2.setTextColors(color.holo_blue_bright);
        b3.setTextColors(color.holo_blue_bright);
        b4.setTextColors(color.holo_blue_bright);
        b5.setTextColors(color.holo_blue_bright);
        b6.setTextColors(color.holo_blue_bright);
        b7.setTextColors(color.holo_blue_bright);
        b8.setTextColors(color.holo_blue_bright);
        break;
    case 1:
        b1.setTextColors(color.holo_green_dark);
        b2.setTextColors(color.holo_green_dark);
        b3.setTextColors(color.holo_green_dark);
        b4.setTextColors(color.holo_green_dark);
        b5.setTextColors(color.holo_green_dark);
        b6.setTextColors(color.holo_green_dark);
        b7.setTextColors(color.holo_green_dark);
        b8.setTextColors(color.holo_green_dark);
        break;
    case 2:
        b1.setTextColors(color.holo_red_dark);
        b2.setTextColors(color.holo_red_dark);
        b3.setTextColors(color.holo_red_dark);
        b4.setTextColors(color.holo_red_dark);
        b5.setTextColors(color.holo_red_dark);
        b6.setTextColors(color.holo_red_dark);
        b7.setTextColors(color.holo_red_dark);
        b8.setTextColors(color.holo_red_dark);
        break;

    default:
        b1.setTextColors(color.black);
        b2.setTextColors(color.black);
        b3.setTextColors(color.black);
        b4.setTextColors(color.black);
        b5.setTextColors(color.black);
        b6.setTextColors(color.black);
        b7.setTextColors(color.black);
        b8.setTextColors(color.black);
        break;
    }

    break;
case R.id.calculate:
    res.setText(Float.toString(result));
    break;
}

```

```
}  
  
}
```



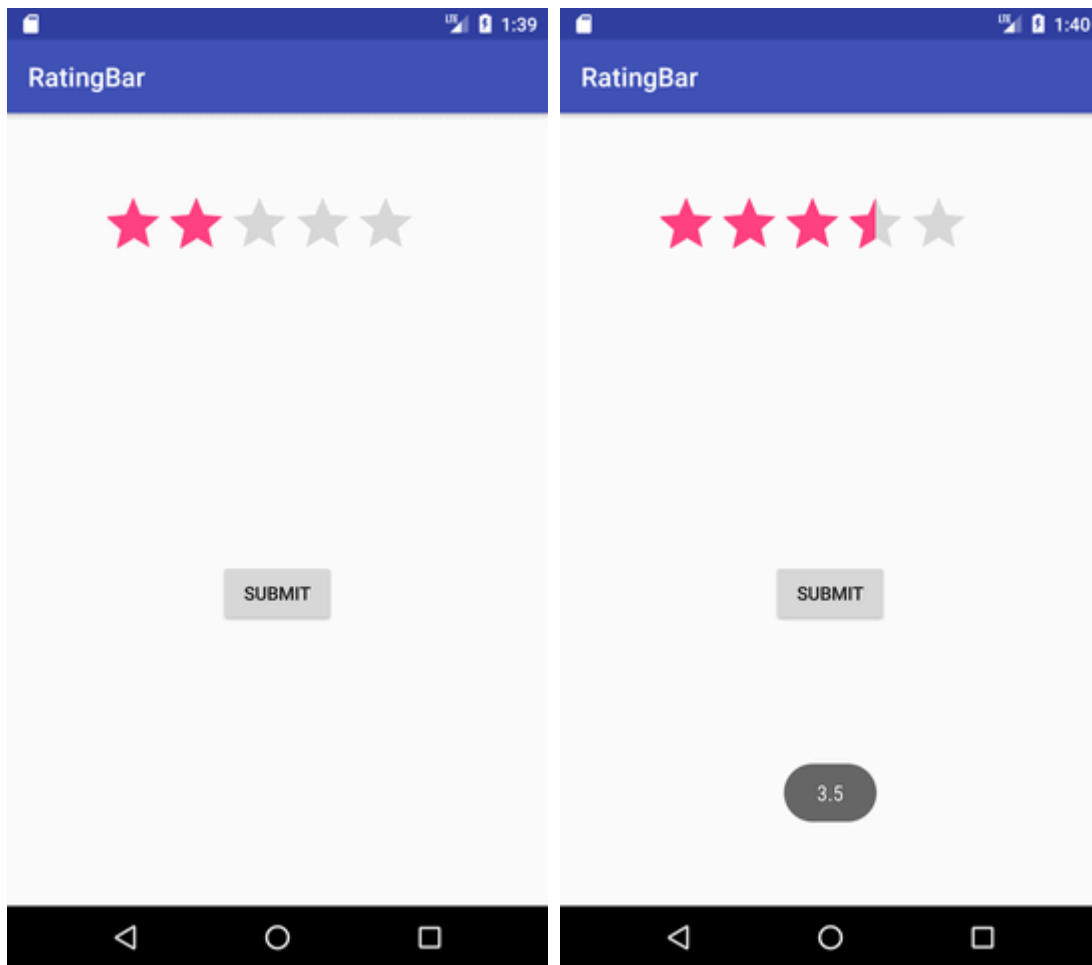
Practical No 7 Rating Bar In Android

1. `<?xml version="1.0" encoding="utf-8"?>`
2. `<android.support.constraint.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"`
3. `xmlns:app="http://schemas.android.com/apk/res-auto"`
4. `xmlns:tools="http://schemas.android.com/tools"`
5. `android:layout_width="match_parent"`
6. `android:layout_height="match_parent"`
7. `tools:context="example.javatpoint.com.ratingbar.MainActivity">`
- 8.
9. `<Button`
10. `android:layout_width="wrap_content"`
11. `android:layout_height="wrap_content"`
12. `android:text="submit"`
13. `android:id="@+id/button"`
14. `app:layout_constraintBottom_toBottomOf="parent"`
15. `app:layout_constraintLeft_toLeftOf="parent"`
16. `app:layout_constraintRight_toRightOf="parent"`
17. `app:layout_constraintTop_toTopOf="parent"`
18. `app:layout_constraintVertical_bias="0.615" />`
- 19.
20. `<RatingBar`
21. `android:id="@+id/ratingBar"`
22. `android:layout_width="wrap_content"`
23. `android:layout_height="wrap_content"`
24. `android:layout_marginLeft="72dp"`
25. `android:layout_marginTop="60dp"`
26. `app:layout_constraintStart_toStartOf="parent"`
27. `app:layout_constraintTop_toTopOf="parent" />`
- 28.
29. `</android.support.constraint.ConstraintLayout>`


```

1. package example.javatpoint.com.ratingbar;
2.
3. import android.support.v7.app.AppCompatActivity;
4. import android.os.Bundle;
5. import android.view.View;
6. import android.widget.Button;
7. import android.widget.RatingBar;
8. import android.widget.Toast;
9.
10. public class MainActivity extends AppCompatActivity {
11.     RatingBar ratingbar;
12.     Button button;
13.     @Override
14.     protected void onCreate(Bundle savedInstanceState) {
15.         super.onCreate(savedInstanceState);
16.         setContentView(R.layout.activity_main);
17.         addListenerOnButtonClick();
18.     }
19.     public void addListenerOnButtonClick(){
20.         ratingbar=(RatingBar)findViewById(R.id.ratingBar);
21.         button=(Button)findViewById(R.id.button);
22.         //Performing action on Button Click
23.         button.setOnClickListener(new View.OnClickListener(){
24.
25.             @Override
26.             public void onClick(View arg0) {
27.                 //Getting the rating and displaying it on the toast
28.                 String rating=String.valueOf(ratingbar.getRating());
29.                 Toast.makeText(getApplicationContext(), rating, Toast.LENGTH_LON
30. G).show();
31.             }
32.         });
33.     }
34. }

```



Web View

```
<?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="com.gfg.android.examplekotlin.MainActivity">

    <!-- unique ID of WebView -->
    <WebView
        android:id="@+id/web"
        android:layout_width="match_parent"
```

```
        android:layout_height="match_parent"
        tools:layout_editor_absoluteX="8dp"
        tools:layout_editor_absoluteY="8dp" />
</RelativeLayout>
```

```
import android.os.Bundle;
import android.webkit.WebView;
import android.webkit.WebViewClient;
import androidx.appcompat.app.AppCompatActivity;
```

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

```
    @Override
```

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

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

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

```
        // Find the WebView by its unique ID
```

```
        WebView webView = findViewById(R.id.web);
```

```
        // loading https://www.geeksforgeeks.org url in the WebView.
```

```
        webView.loadUrl("https://www.geeksforgeeks.org");
```

```
        // this will enable the javascript.
```

```
        webView.getSettings().setJavaScriptEnabled(true);
```

```
        // WebViewClient allows you to handle
```

```
        // onPageFinished and override Url loading.
```

```
        webView.setWebViewClient(new WebViewClient());
```

```
    }
```

```
}
```

Seek bar

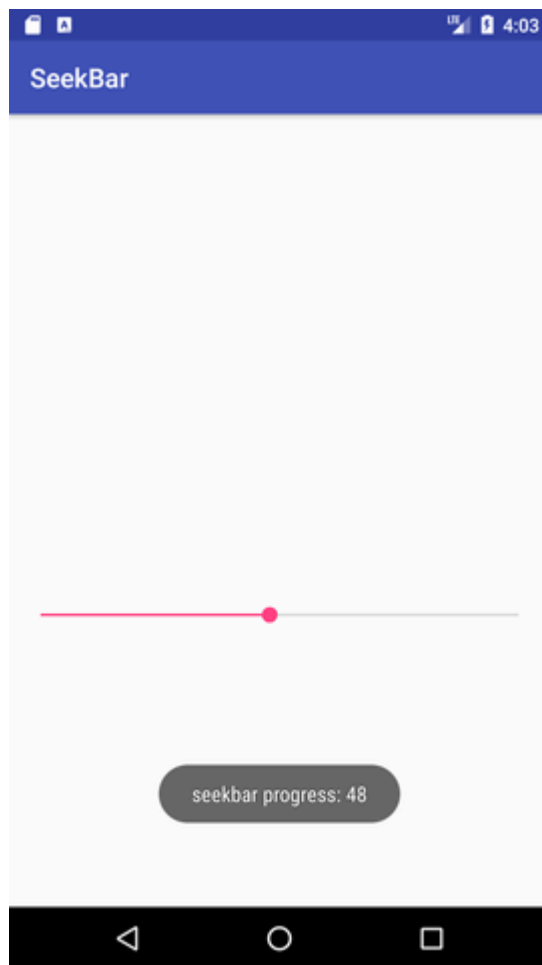
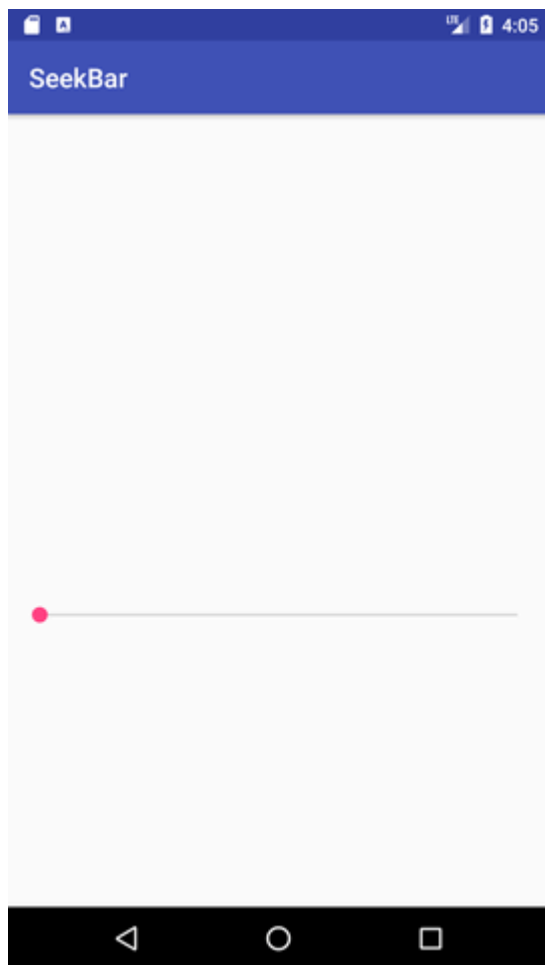
```
1. <?xml version="1.0" encoding="utf-8"?>
2. <android.support.constraint.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
3.     xmlns:app="http://schemas.android.com/apk/res-auto"
4.     xmlns:tools="http://schemas.android.com/tools"
5.     android:layout_width="match_parent"
6.     android:layout_height="match_parent"
7.     tools:context="example.javatpoint.com.seekbar.MainActivity">
8.
9.
10.    <SeekBar
11.        android:id="@+id/seekBar"
12.        android:layout_width="match_parent"
13.        android:layout_height="wrap_content"
14.        android:layout_marginEnd="8dp"
15.        android:layout_marginStart="8dp"
16.        android:layout_marginTop="372dp"
17.        app:layout_constraintEnd_toEndOf="parent"
18.        app:layout_constraintStart_toStartOf="parent"
19.        app:layout_constraintTop_toTopOf="parent" />
20. </android.support.constraint.ConstraintLayout>
```

```
1. package example.javatpoint.com.seekbar;
2.
3. import android.support.v7.app.AppCompatActivity;
4. import android.os.Bundle;
5. import android.widget.SeekBar;
6. import android.widget.Toast;
7.
8. public class MainActivity extends AppCompatActivity {
```

```

9.     SeekBar seekBar;
10.    @Override
11.    protected void onCreate(Bundle savedInstanceState) {
12.        super.onCreate(savedInstanceState);
13.        setContentView(R.layout.activity_main);
14.
15.        seekBar=(SeekBar)findViewById(R.id.seekBar);
16.        seekBar.setOnSeekBarChangeListener(new SeekBar.OnSeekBarChangeListener() {
17.            @Override
18.            public void onProgressChanged(SeekBar seekBar, int progress,
19.                boolean fromUser) {
20.                Toast.makeText(getApplicationContext(),"seekbar progress: "+progress, Toast.LENGTH_SHORT).show();
21.            }
22.
23.            @Override
24.            public void onStartTrackingTouch(SeekBar seekBar) {
25.                Toast.makeText(getApplicationContext(),"seekbar touch started!", Toast.LENGTH_SHORT).show();
26.            }
27.
28.            @Override
29.            public void onStopTrackingTouch(SeekBar seekBar) {
30.                Toast.makeText(getApplicationContext(),"seekbar touch stopped!", Toast.LENGTH_SHORT).show();
31.            }
32.        });
33.    }
34.}

```



Practical No 8 Registration Form

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:id="@+id/loginscrn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="80dp"
        android:text="Login"
        android:textSize="25dp"
        android:textStyle="bold"
        android:layout_gravity="center"/>
    <TextView
        android:id="@+id/fstTxt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="100dp"
        android:layout_marginTop="20dp"
        android:text="Email"/>
    <EditText
        android:id="@+id/txtEmail"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="100dp"
        android:ems="10"/>
    <TextView
        android:id="@+id/secTxt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Password"
        android:layout_marginLeft="100dp" />
    <EditText
        android:id="@+id/txtPwd"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="100dp"
        android:inputType="textPassword"
        android:ems="10" />
    <Button
        android:id="@+id/btnLogin"
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content"
        android:layout_marginLeft="100dp"
        android:text="Login" />
    <TextView android:id="@+id/lnkRegister"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="40dp"
        android:text="New to Tutlane? Register here"
        android:gravity="center"
        android:textSize="20dp"
        android:textColor="#3F51B5"/>
</LinearLayout>

```

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TextView
        android:id="@+id/loginscrn"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="80dp"
        android:text="Registration"
        android:textSize="25dp"
        android:textStyle="bold"
        android:layout_gravity="center"/>
    <TextView
        android:id="@+id/fstTxt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="100dp"
        android:layout_marginTop="20dp"
        android:text="Full Name"/>
    <EditText
        android:id="@+id/txtName"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginLeft="100dp"
        android:ems="10"/>
    <TextView
        android:id="@+id/secTxt"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Email"
        android:layout_marginLeft="100dp" />

```



```
<EditText
    android:id="@+id/txtEmail"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="100dp"
    android:ems="10" />
<TextView
    android:id="@+id/thirdTxt"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Password"
    android:layout_marginLeft="100dp" />
<EditText
    android:id="@+id/txtPwd"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="100dp"
    android:inputType="textPassword"
    android:ems="10" />
<Button
    android:id="@+id/btnLogin"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="100dp"
    android:text="Login" />
<TextView android:id="@+id/lnkLogin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="40dp"
    android:text="Already Registered? Login here"
    android:gravity="center"
    android:textSize="20dp"
    android:textColor="#3F51B5"
    android:onClick="test"/>
</LinearLayout>
```

Login Example

Login

Email

Password

LOGIN

[New to Tutlane? Register here](#)

© Tutlane.com

Registration

Registration

Full Name

Email

Password

LOGIN

[Already Registered? Login here](#)

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Practical no 9 Date Picker

1. `<?xml version="1.0" encoding="utf-8"?>`
2. `<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"`
3. `xmlns:app="http://schemas.android.com/apk/res-auto"`
4. `xmlns:tools="http://schemas.android.com/tools"`
5. `android:layout_width="match_parent"`
6. `android:layout_height="match_parent"`
7. `tools:context="example.javatpoint.com.datepicker.MainActivity">`
- 8.
9. `<TextView`
10. `android:id="@+id/textView1"`
11. `android:layout_width="wrap_content"`
12. `android:layout_height="wrap_content"`
13. `android:layout_above="@+id/button1"`
14. `android:layout_alignParentLeft="true"`
15. `android:layout_alignParentStart="true"`
16. `android:layout_marginBottom="102dp"`
17. `android:layout_marginLeft="30dp"`
18. `android:layout_marginStart="30dp"`
19. `android:text="" />`
- 20.
21. `<Button`
22. `android:id="@+id/button1"`
23. `android:layout_width="wrap_content"`
24. `android:layout_height="wrap_content"`
25. `android:layout_alignParentBottom="true"`
26. `android:layout_centerHorizontal="true"`
27. `android:layout_marginBottom="20dp"`
28. `android:text="Change Date" />`
- 29.
30. `<DatePicker`
31. `android:id="@+id/datePicker"`
32. `android:layout_width="wrap_content"`

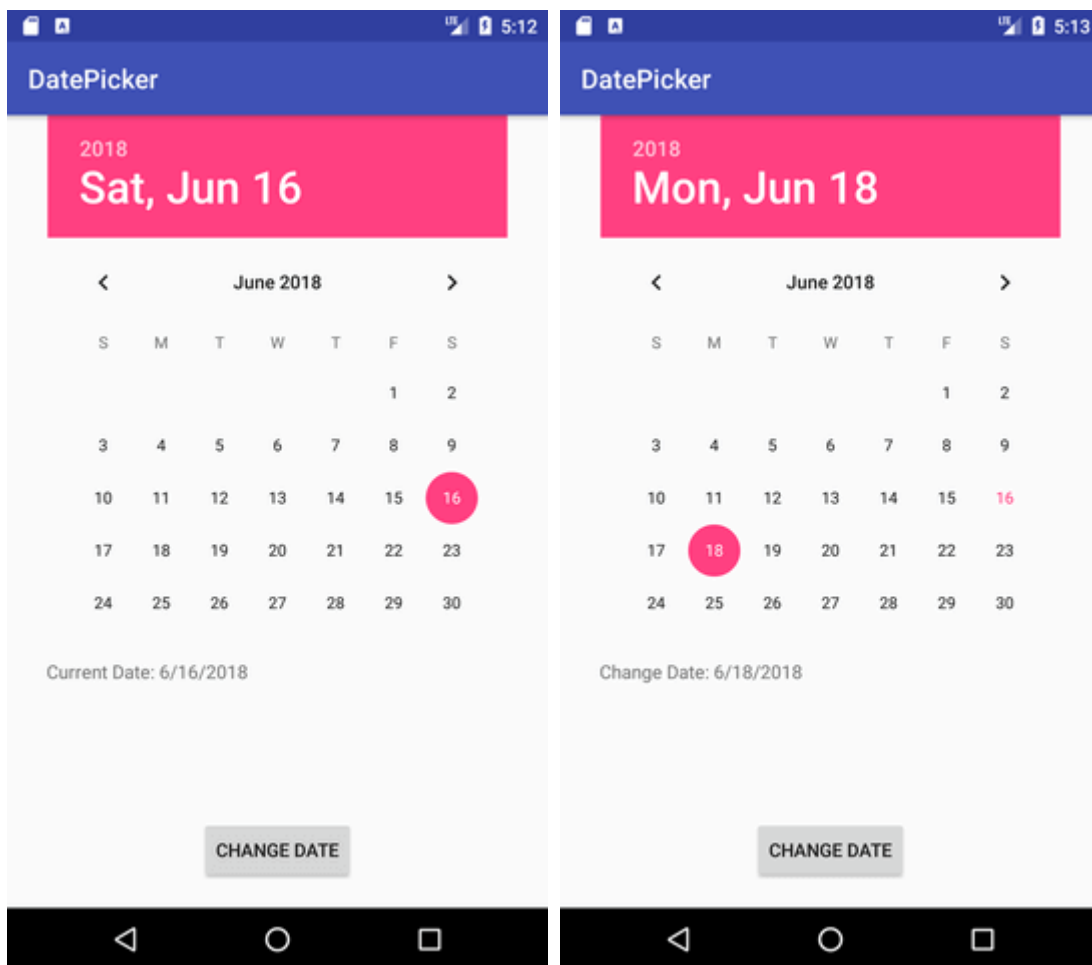
```
33.     android:layout_height="wrap_content"
34.     android:layout_above="@+id/textView1"
35.     android:layout_centerHorizontal="true"
36.     android:layout_marginBottom="36dp" />
37.
38. </RelativeLayout>
```

```
1.  package example.javatpoint.com.datepicker;
2.
3.  import android.support.v7.app.AppCompatActivity;
4.  import android.os.Bundle;
5.  import android.view.View;
6.  import android.widget.Button;
7.  import android.widget.DatePicker;
8.  import android.widget.TextView;
9.
10. public class MainActivity extends AppCompatActivity {
11.     DatePicker picker;
12.     Button displayDate;
13.     TextView textview1;
14.     @Override
15.     protected void onCreate(Bundle savedInstanceState) {
16.         super.onCreate(savedInstanceState);
17.         setContentView(R.layout.activity_main);
18.
19.         textview1=(TextView)findViewById(R.id.textView1);
20.         picker=(DatePicker)findViewById(R.id.datePicker);
21.         displayDate=(Button)findViewById(R.id.button1);
22.
23.         textview1.setText("Current Date: "+getCurrentDate());
24.
25.         displayDate.setOnClickListener(new View.OnClickListener(){
26.             @Override
27.             public void onClick(View view) {
28.
```

```

29.         textView1.setText("Change Date: "+getCurrentDate());
30.     }
31.
32.     });
33.
34. }
35. public String getCurrentDate(){
36.     StringBuilder builder=new StringBuilder();
37.     builder.append((picker.getMonth() + 1)+"/");//month is 0 based
38.     builder.append(picker.getDayOfMonth()+"/");
39.     builder.append(picker.getYear());
40.     return builder.toString();
41. }
42. }

```



Time Picker

activity_main.xml

File: activity_main.xml

```
1. <?xml version="1.0" encoding="utf-8"?>
2. <RelativeLayout xmlns:android="http://schemas.android.com/apk/res/androi
   d"
3.     xmlns:app="http://schemas.android.com/apk/res-auto"
4.     xmlns:tools="http://schemas.android.com/tools"
5.     android:layout_width="match_parent"
6.     android:layout_height="match_parent"
7.     tools:context="example.javatpoint.com.timepicker.MainActivity">
8.
9.     <TextView
10.         android:id="@+id/textView1"
11.         android:layout_width="wrap_content"
12.         android:layout_height="wrap_content"
13.         android:layout_above="@+id/button1"
14.         android:layout_alignParentLeft="true"
15.         android:layout_alignParentStart="true"
16.         android:layout_marginBottom="102dp"
17.         android:layout_marginLeft="30dp"
18.         android:layout_marginStart="30dp"
19.         android:text="" />
20.
21.     <Button
22.         android:id="@+id/button1"
23.         android:layout_width="wrap_content"
24.         android:layout_height="wrap_content"
25.         android:layout_alignParentBottom="true"
26.         android:layout_centerHorizontal="true"
27.         android:layout_marginBottom="20dp"
28.         android:text="Change Time" />
29.
```

```
30. <TimePicker
31.     android:id="@+id/timePicker"
32.     android:layout_width="wrap_content"
33.     android:layout_height="wrap_content"
34.     android:layout_above="@+id/textView1"
35.     android:layout_centerHorizontal="true"
36.     android:layout_marginBottom="36dp" />
37. </RelativeLayout>
```

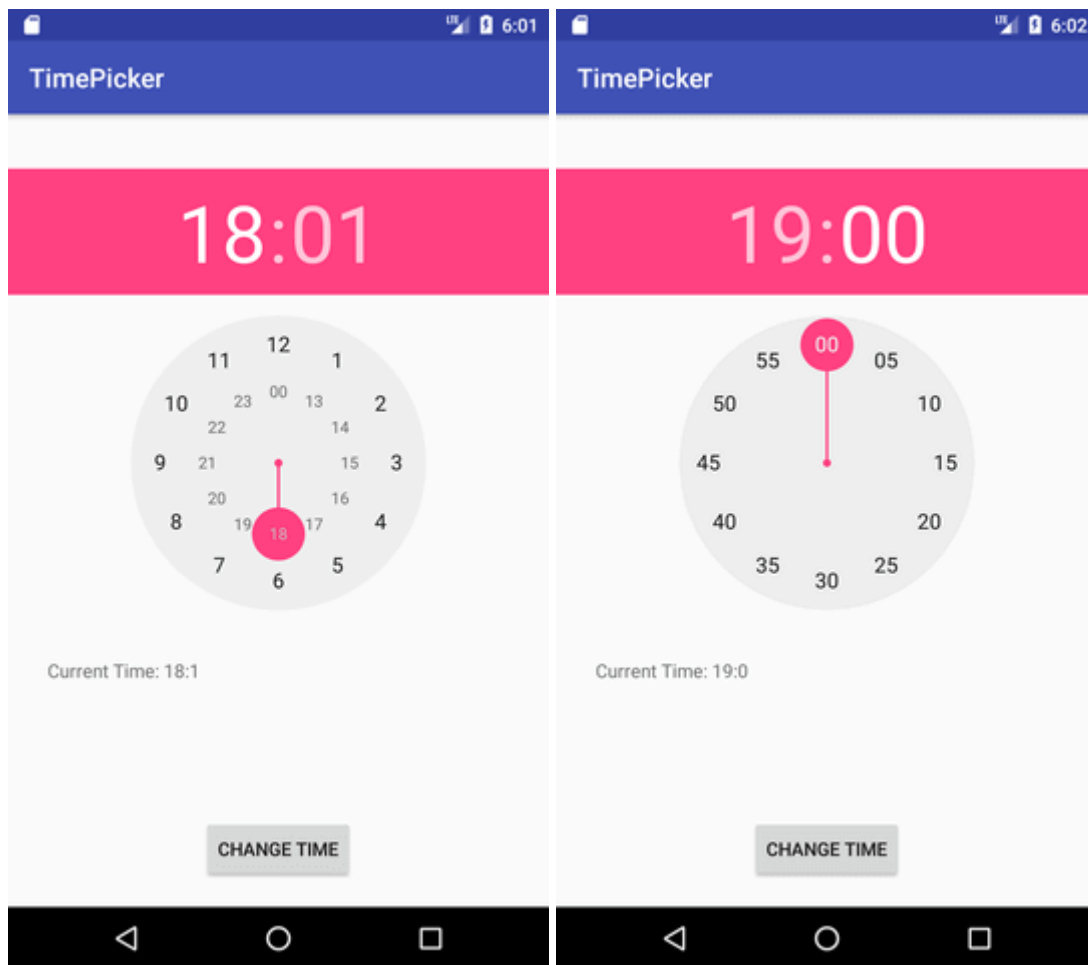
Activity class

File: MainActivity.java

```
1. package example.javatpoint.com.timepicker;
2.
3. import android.support.v7.app.AppCompatActivity;
4. import android.os.Bundle;
5. import android.view.View;
6. import android.widget.Button;
7. import android.widget.TextView;
8. import android.widget.TimePicker;
9.
10. public class MainActivity extends AppCompatActivity {
11.     TextView textview1;
12.     TimePicker timepicker;
13.     Button changetime;
14.     @Override
15.     protected void onCreate(Bundle savedInstanceState) {
16.         super.onCreate(savedInstanceState);
17.         setContentView(R.layout.activity_main);
18.
19.         textview1=(TextView)findViewById(R.id.textView1);
20.         timepicker=(TimePicker)findViewById(R.id.timePicker);
21.         //Uncomment the below line of code for 24 hour view
22.         timepicker.setIs24HourView(true);
23.         changetime=(Button)findViewById(R.id.button1);
24.
25.         textview1.setText(getCurrentTime());
```

```
26.
27.     changetime.setOnClickListener(new View.OnClickListener(){
28.         @Override
29.         public void onClick(View view) {
30.             textview1.setText(getCurrentTime());
31.         }
32.     });
33.
34. }
35.
36. public String getCurrentTime(){
37.     String currentTime="Current Time: "+timepicker.getCurrentHour()+":"+ti
        mepicker.getCurrentMinute();
38.     return currentTime;
39. }
40.
41. }
```

Output:



Progress bar

Practical no 10 Android Progress Bar Example by ProgressDialog

Let's see a simple example to create progress bar using ProgressDialog class.

activity_main.xml

Drag one button from the palette, now the activity_main.xml file will look like this:

File: activity_main.xml

1. **<RelativeLayout** xmlns:android="http://schemas.android.com/apk/res/android"
2. xmlns:tools="http://schemas.android.com/tools"
3. android:layout_width="match_parent"
4. android:layout_height="match_parent"
5. tools:context=".MainActivity" >
- 6.
7. **<Button**
8. android:id="@+id/button1"
9. android:layout_width="wrap_content"
10. android:layout_height="wrap_content"
11. android:layout_alignParentTop="true"
12. android:layout_centerHorizontal="true"
13. android:layout_marginTop="116dp"
14. android:text="download file" />
- 15.

16. </RelativeLayout>

Activity class

Let's write the code to display the progress bar dialog box.

File: MainActivity.java

```
1. package example.javatpoint.com.progressbar;
2.
3. import android.app.ProgressDialog;
4. import android.os.Handler;
5. import android.support.v7.app.AppCompatActivity;
6. import android.os.Bundle;
7. import android.view.View;
8. import android.widget.Button;
9.
10. public class MainActivity extends AppCompatActivity {
11.     Button btnStartProgress;
12.     ProgressDialog progressBar;
13.     private int progressBarStatus = 0;
14.     private Handler progressBarHandler = new Handler();
15.     private long fileSize = 0;
16.     @Override
17.     protected void onCreate(Bundle savedInstanceState) {
18.         super.onCreate(savedInstanceState);
19.         setContentView(R.layout.activity_main);
20.         addListenerOnButtonClick();
21.     }
22.     public void addListenerOnButtonClick() {
23.         btnStartProgress = findViewById(R.id.button);
24.         btnStartProgress.setOnClickListener(new View.OnClickListener(){
25.
26.             @Override
27.             public void onClick(View v) {
28.                 // creating progress bar dialog
29.                 progressBar = new ProgressDialog(v.getContext());
30.                 progressBar.setCancelable(true);
```

```
31.     progressBar.setMessage("File downloading ...");
32.     progressBar.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
33.     progressBar.setProgress(0);
34.     progressBar.setMax(100);
35.     progressBar.show();
36.     //reset progress bar and filesize status
37.     progressBarStatus = 0;
38.     fileSize = 0;
39.
40.     new Thread(new Runnable() {
41.         public void run() {
42.             while (progressBarStatus < 100) {
43.                 // performing operation
44.                 progressBarStatus = doOperation();
45.                 try {
46.                     Thread.sleep(1000);
47.                 } catch (InterruptedException e) {
48.                     e.printStackTrace();
49.                 }
50.                 // Updating the progress bar
51.                 progressBarHandler.post(new Runnable() {
52.                     public void run() {
53.                         progressBar.setProgress(progressBarStatus);
54.                     }
55.                 });
56.             }
57.             // performing operation if file is downloaded,
58.             if (progressBarStatus >= 100) {
59.                 // sleeping for 1 second after operation completed
60.                 try {
61.                     Thread.sleep(1000);
62.                 } catch (InterruptedException e) {
63.                     e.printStackTrace();
64.                 }
65.                 // close the progress bar dialog
66.                 progressBar.dismiss();
67.             }
```

```

68.         }
69.     }).start();
70.     }//end of onClick method
71. };
72. }
73. // checking how much file is downloaded and updating the filesize
74. public int doOperation() {
75.     //The range of ProgressDialog starts from 0 to 10000
76.     while (fileSize <= 10000) {
77.         fileSize++;
78.         if (fileSize == 1000) {
79.             return 10;
80.         } else if (fileSize == 2000) {
81.             return 20;
82.         } else if (fileSize == 3000) {
83.             return 30;
84.         } else if (fileSize == 4000) {
85.             return 40; // you can add more else if
86.         }
87.         /* else {
88.             return 100;
89.         }*/
90.     }//end of while
91.     return 100;
92. }//end of doOperation
93. }

```

Output:

