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Chapter 7:

Java classes:

DateTimePickerDialoug.java

```java
package com.example.chapter7;

import androidx.appcompat.app.AppCompatActivity;

import android.app.DatePickerDialog;

import android.app.DatePickerDialog.OnDateSetListener;

import android.app.TimePickerDialog;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.DatePicker;

import android.widget.TextView;

import android.widget.TimePicker;

import java.text.DateFormat;

import java.util.Calendar;

public class DateTimePickerDialoug extends AppCompatActivity {
 DateFormat fmtDateAndTime= DateFormat.getDateTimeInstance();

 TextView lblDateAndTime;

 Calendar myCalendar= Calendar.getInstance();

 DatePickerDialog.OnDateSetListener d = new OnDateSetListener() {
 @Override
 public void onDateSet(DatePicker datePicker, int i, int i1, int i2) {
 myCalendar.set(Calendar.YEAR, i);

 myCalendar.set(Calendar.MONTH, i1);

 myCalendar.set(Calendar.DAY_OF_MONTH, i2);

 updateLabel();
```

```java
}
};
TimePickerDialog.OnTimeSetListener t = new TimePickerDialog.OnTimeSetListener() {
@Override
public void onTimeSet(TimePicker timePicker, int i, int i1) {
myCalendar.set(Calendar.HOUR_OF_DAY, i);
myCalendar.set(Calendar.MINUTE, i1);
updateLabel();
}
};
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_datetimepickerdialoug);
lblDateAndTime= (TextView) findViewById(R.id.lblDateAndTime);
Button btnDate= (Button) findViewById(R.id.btnDate);
btnDate.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
new DatePickerDialog(DateTimePickerDialoug.this, d,
myCalendar.get(Calendar.YEAR), myCalendar.get(Calendar.MONTH),
myCalendar.get(Calendar.DAY_OF_MONTH)).show();
}
});
Button btnTime= (Button) findViewById(R.id.btnTime);
btnTime.setOnClickListener(new View.OnClickListener() {
public void onClick(View v) {
new TimePickerDialog(DateTimePickerDialoug.this, t,
myCalendar.get(Calendar.HOUR_OF_DAY),
myCalendar.get(Calendar.MINUTE), true).show();
}
```

```java
        });

        updateLabel();

    }

    private void updateLabel() {

        lblDateAndTime.setText(fmtDateAndTime.format(myCalendar.getTime()));

    }

}
```

DigitalAnalogClock.java

```java
package com.example.chapter7;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class DigitalAnalogClock extends AppCompatActivity {

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_digital_analog_clock);

    }

}
```

Main.java

```java
package com.example.chapter7;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.Spinner;

public class Main extends AppCompatActivity implements AdapterView.OnItemSelectedListener {

    @Override

    protected void onCreate(Bundle savedInstanceState) {
```

```java
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Spinner spinner1 = findViewById(R.id.spinner1);
String[] items = {"Select Options","Date&Time Picker Dialog","Digital&Analog Clock","Tab
widget","Sliding Drawer"};
ArrayAdapter<String> adp = new ArrayAdapter<String>(this,R.layout.textview,items);
spinner1.setAdapter(adp);
spinner1.setOnItemSelectedListener(this);
}
@Override
public void onItemSelected(AdapterView<?> adapterView, View view, int i, long l) {
switch ( adapterView.getId()){
case R.id.spinner1:{
switch(i){
case 0:{
break;
}
case 1:{
startActivity(new Intent(getApplicationContext(),DateTimePickerDialoug.class));
break;
}
case 2:{
startActivity(new Intent(getApplicationContext(),DigitalAnalogClock.class));
break;
}
case 3:{
startActivity(new Intent(getApplicationContext(),Tab_Widget.class));
break;
}
case 4:{
```

```java
          startActivity(new Intent(getApplicationContext(),SlidingDrawer.class));
          break;
         }
        }
        break;
       }
      }
     }
     @Override
     public void onNothingSelected(AdapterView<?> adapterView) {
     }
    }
```

SlidingDrawer.java

```java
package com.example.chapter7;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
public class SlidingDrawer extends AppCompatActivity {
 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_sliding_drawer);
 }
}
```

Tab_Widget.java

```java
package com.example.chapter7;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TabHost;
public class Tab_Widget extends AppCompatActivity {
 @Override
```

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

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_tab_widget);

TabHost tabs=(TabHost)findViewById(R.id.tabhost);

tabs.setup();

TabHost.TabSpec spec;

spec =tabs.newTabSpec("tag1");

spec.setContent(R.id.tab1);

spec.setIndicator("1-Clock");

tabs.addTab(spec);

spec=tabs.newTabSpec("tag2");

spec.setContent(R.id.tab2);

spec.setIndicator("2-Login");

tabs.addTab(spec);

tabs.setCurrentTab(0);

}

}
```

XML layouts:

activity_datetimepickerdialoug.xml

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

<LinearLayout 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:orientation="vertical"

android:layout_width="match_parent"

android:layout_height="match_parent"

tools:context=".DateTimePickerDialoug">

<TextView

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

```xml
            android:layout_width="match_parent"

            android:layout_height="47px"

            android:background="#ff000099"

            android:textStyle="bold">

        </TextView>

        <Button

            android:id="@+id/btnDate"

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:text="Set the Date">

        </Button>

        <Button

            android:id="@+id/btnTime"

            android:layout_width="match_parent"

            android:layout_height="wrap_content"

            android:text="Set the Time">

        </Button>

</LinearLayout>
```

activity_digital_analog_clock.xml

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

<LinearLayout 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:orientation="vertical"

    android:layout_height="match_parent"

    tools:context=".DigitalAnalogClock">

    <DigitalClock

        android:id="@+id/digital"

        android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"

        android:background="#ff0000ff"

        android:textSize="20px"

        android:layout_below="@+id/analog"

        android:layout_centerHorizontal="true"

        >

    </DigitalClock>

    <AnalogClock

        android:id="@+id/analog"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_alignParentTop="true"

        android:layout_alignParentLeft="true"

        >

    </AnalogClock>

</LinearLayout>
```

activity_main.xml

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

<LinearLayout 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:orientation="vertical"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    tools:context=".Main">

    <Spinner

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:id="@+id/spinner1"

        />
```

```xml
    </LinearLayout>

activity_sliding_drawer.xml

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

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

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

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

 android:layout_width="match_parent"

 android:layout_height="match_parent"

 tools:context=".SlidingDrawer">

<TextView

 android:id="@+id/label0"

 android:layout_alignParentTop="true"

 android:layout_width="match_parent"

 android:layout_height="wrap_content"

 android:background="#ffcc3300"

 android:text="SlidingDrawerDemo"

 android:textSize="24sp" />

 <SlidingDrawer

 android:id="@+id/drawer"

 android:layout_alignParentBottom="true"

 android:layout_width="fill_parent"

 android:layout_height="fill_parent"

 android:handle="@+id/handle"

 android:content="@+id/content" >

 <ImageView

 android:id="@id/handle"

 android:layout_width="40sp"

 android:layout_height="40sp"

 android:src="@drawable/tray_handle_normal" />

 <LinearLayout
```

```xml
android:id="@id/content"
android:layout_width="fill_parent"
android:layout_height="fill_parent"
android:orientation="vertical" >
<TextView
android:id="@+id/label1"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:background="#ff006666"
android:text="Line 1"
android:textSize="22sp" />
<TextView
android:id="@+id/label2"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:background="#ff669900"
android:text="Line 2"
android:textSize="22sp" />
<TextView
android:id="@+id/label3"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:background="#ff0000cc"
android:text="Line 3"
android:textSize="22sp" />
<TextView
android:id="@+id/filler1"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:textSize="6sp" />
```

```xml
    <Button
    android:id="@+id/btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:padding="4px"
android:text=" btn1 -time? " />
    <Button
    android:id="@+id/btn2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:padding="4px"
    android:text=" btn2 -close " />
    </LinearLayout>
    </SlidingDrawer>
</RelativeLayout>
activity_tab_widget.xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".Tab_Widget">
    <TabHost
    android:id="@+id/tabhost"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <TabWidget
    android:id="@android:id/tabs"
```

```xml
    android:layout_width="match_parent"

    android:layout_height="wrap_content"/>

<FrameLayout

    android:id="@android:id/tabcontent"

    android:layout_width="match_parent"

    android:layout_height="match_parent"

    android:paddingTop="62px">

<!--PUT HERE FrameLayout1 --><!--PUT HERE FrameLayout2 -->

<FrameLayout

    android:id="@+id/tab1"

    android:layout_width="match_parent"

    android:layout_height="match_parent">

<include

    layout="@layout/tab1"

/>

</FrameLayout>

<FrameLayout

    android:id="@+id/tab2"

    android:layout_width="match_parent"

    android:layout_height="match_parent">

<include

    layout="@layout/tab2" />

</FrameLayout>

</FrameLayout>

</TabHost>

</LinearLayout>

tab1.xml

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

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

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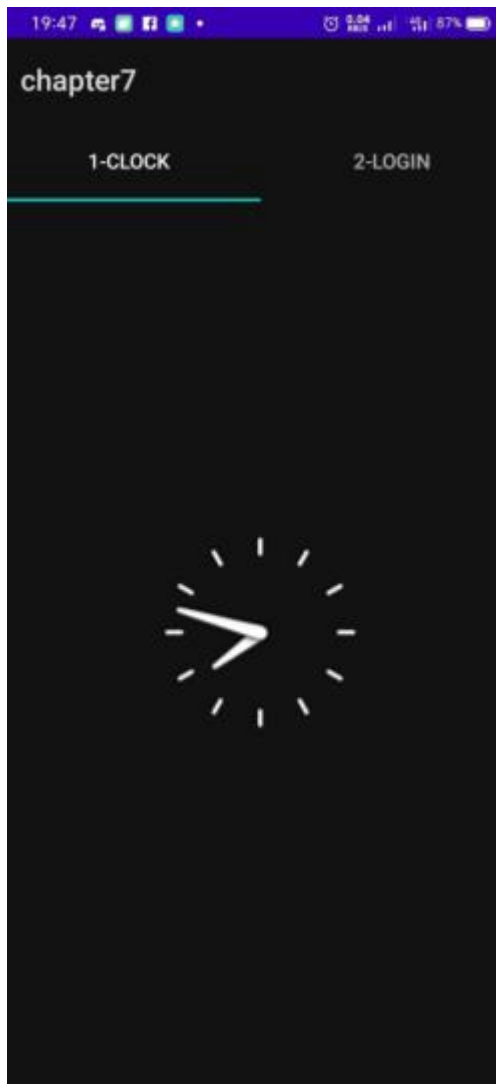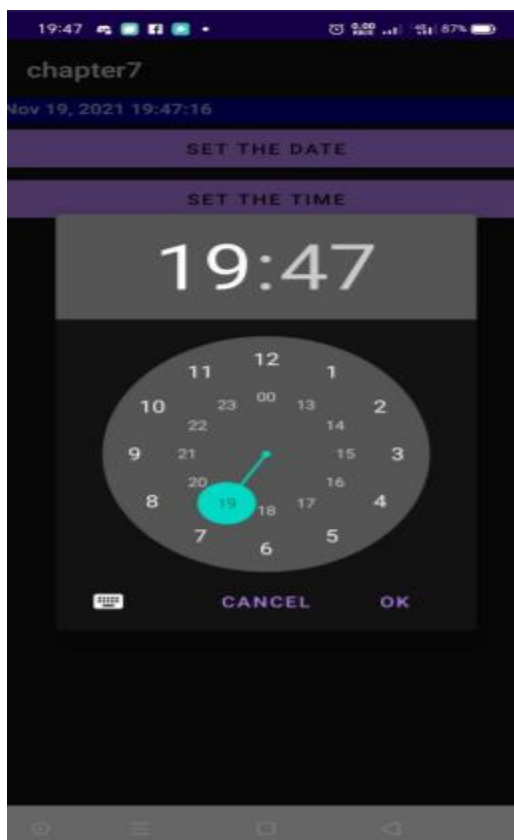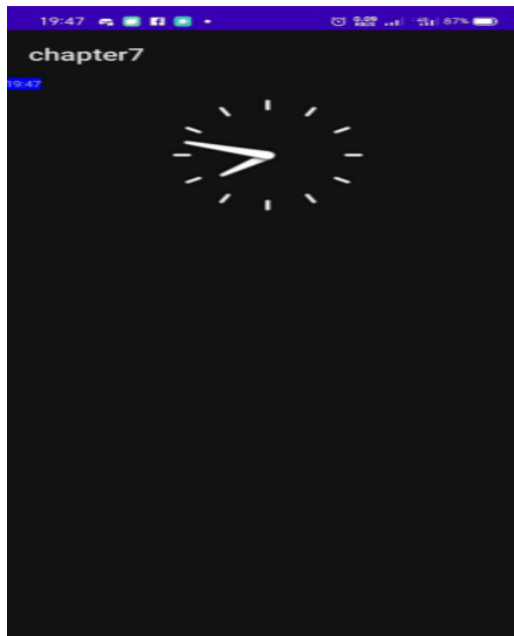
```
  android:layout_height="match_parent"

  android:id="@+id/tab1"

 >

</AnalogClock>

tab2.xml

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

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

 android:orientation="vertical"

 android:id="@+id/tab2"

 android:layout_width="match_parent"

 android:layout_height="match_parent">

 <TextView

 android:id="@+id/caption1"

 android:layout_width="fill_parent"

 android:layout_height="wrap_content"

 android:background="#ff0000ff"

 android:text="Person Name"

 android:textSize="20px">

 </TextView>

 <EditText

 android:id="@+id/txtPerson"

 android:layout_width="fill_parent"

 android:layout_height="wrap_content"

 android:text="txtPerson"

 android:textSize="18sp">

 </EditText>

 <Button

 android:id="@+id/btnGo"

 android:layout_width="wrap_content"

 android:layout_height="wrap_content"
```

```
  android:text="Go">

 </Button>

</LinearLayout>
```

textview.xml

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

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

 android:layout_width="match_parent"

 android:layout_height="match_parent">

</TextView>
```
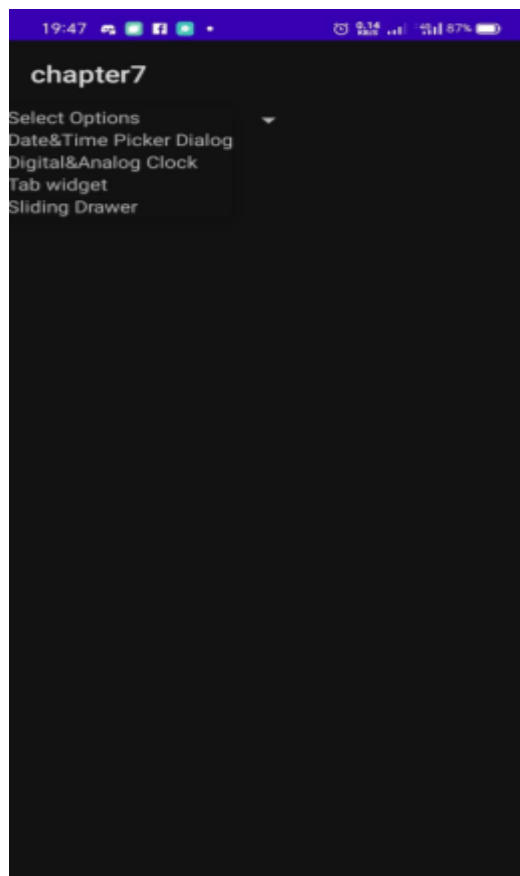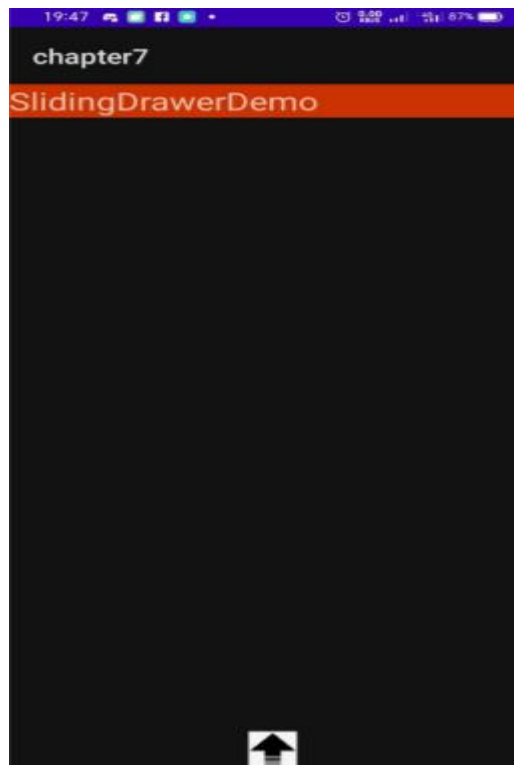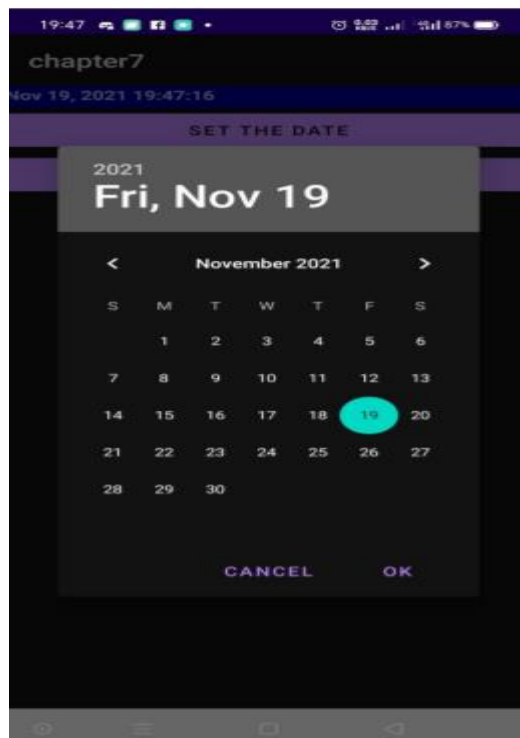
Screenshots:

Chapter 8

Java classes:

MainActivity.java

```java
package com.example.chapter8;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;

import android.os.Bundle;

import android.text.Html;

import android.text.Spanned;

import android.view.ContextMenu;

import android.view.Menu;

import android.view.MenuItem;

import android.view.SubMenu;

import android.view.View;

import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

 EditText etMessage1, etMessage2;

 Integer[] arrayPointSize = {10,20,30,40,50};

 @Override

 protected void onCreate(Bundle savedInstanceState) {

 super.onCreate(savedInstanceState);

 setContentView(R.layout.activity_main);

 etMessage1 = findViewById(R.id.etMessage1);

 etMessage2 = findViewById(R.id.etMessage2);

 registerForContextMenu(etMessage1);

 registerForContextMenu(etMessage2);

 }

 @Override

 public boolean onCreateOptionsMenu(Menu menu) {
```

```java
        // only one Option menu per activity
        populateMyFirstMenu(menu);
        return super.onCreateOptionsMenu(menu);
    }
    @Override
    public boolean onPrepareOptionsMenu(Menu menu){
        //populateMyFirstMenu(menu);
        return super.onPrepareOptionsMenu(menu);
    }
    private void populateMyFirstMenu(Menu menu){
        int groupId = 0;
        //arguments: groupId, optionId, order, title
        MenuItem item1 =menu.add(groupId, 1, 1, "10 points");
        MenuItem item2 =menu.add(groupId, 2, 2, "20 points");
        MenuItem item3 =menu.add(groupId, 3, 3, "30 points");
        MenuItem item4 =menu.add(groupId, 4, 4, "40 points");
        //menu.add(groupId, 5, 5, "50 points");
        menu.add(groupId, 6, 8, "Red text");
        menu.add(groupId, 7, 7, "Green Text");
        menu.add(groupId, 8, 6, "Blue text");
        item1.setIcon(R.drawable.france);
        item2.setIcon(R.drawable.germany);
        item3.setIcon(R.drawable.uk);
        item4.setIcon(R.drawable.us);
        item1.setShortcut('1','1');
        item2.setShortcut('2','2');
        item3.setShortcut('3','3');
        item4.setShortcut('4','4');
        int smGroupId = 0; // don't care, same as Menu.NONE
        int smItemId = 5; // fifth element
```

```java
int smOrder = 5; // don't care, same as Menu.NONE

SubMenu subMenu = menu.addSubMenu(smGroupId,smItemId,smOrder,"Sub
menu");

subMenu.setHeaderIcon(R.drawable.uk);

subMenu.setIcon(R.drawable.us);

MenuItem sub51 = subMenu.add(smGroupId,5,1,"sub-menu 5-1");

MenuItem sub52 = subMenu.add(smGroupId,5,2,"sub-menu 5-2");

MenuItem sub53 = subMenu.add(smGroupId,5,3,"sub-menu 5-3");

}

public void onCreateContextMenu(ContextMenu menu, View v,

ContextMenu.ContextMenuInfo menuInfo) {

super.onCreateContextMenu(menu, v, menuInfo);

if (v.getId() == etMessage1.getId())

// create a menu for etMessage1 box

populateMyFirstMenu(menu);

if (v.getId() == etMessage2.getId()){

// create a menu for etMessage2 box

populateMySecondMenu(menu);

}

}

private void populateMySecondMenu(Menu menu){

int groupId = 0;

//arguments: groupId, optionId, order, title

menu.add(groupId, 9, 1, "Bold");

menu.add(groupId, 10, 2, "Italic");

menu.add(groupId, 11, 3, "Normal");

}

@Override

public boolean onContextItemSelected(MenuItem item) {

return(applyMenuOption(item) ||
```

```java
        super.onContextItemSelected(item) );

    }

    @Override

    public boolean onOptionsItemSelected(MenuItem item) {

    return(applyMenuOption(item) ||

    super.onOptionsItemSelected(item) );

    }

    private boolean applyMenuOption(MenuItem item){

    int menuItemId = item.getItemId(); // 1, 2, 3, ...11

    String strMsg2 = etMessage2.getText().toString();

    if (menuItemId < 5) {

    // first five option are for setting text size

    int newPointSize = arrayPointSize[menuItemId - 1];

    etMessage1.setTextSize(newPointSize);

    etMessage2.setTextSize(newPointSize);

    }

    else if (menuItemId == 5) {

    etMessage1.setText(

    "You have selected: \n" + item.getTitle()

    + "\nId: " + menuItemId

    + " order: " + item.getOrder());

    }

    else {

    // either change color on box text1 or style on text2

    if (menuItemId == 6)

    etMessage1.setTextColor(Color.RED);

    //etMessage1.setTextColor(0xffff0000); // red

    else if (menuItemId == 7)

    etMessage1.setTextColor(0xff00ff00); // green

    else if (menuItemId == 8)
```

```
etMessage1.setTextColor(0xff0000ff); // blue

else if (menuItemId == 9)

etMessage2.setText(beautify(strMsg2, "BOLD")); //bold

else if (menuItemId == 10)

etMessage2.setText(beautify(strMsg2, "ITALIC")); //italic

else if (menuItemId == 11)

etMessage2.setText(beautify(strMsg2, "NORMAL")); //normal

}

return false;

}

private Spanned beautify (String originalText, String selectedStyle){

Spanned answer = null;

if (selectedStyle.equals("BOLD"))

answer = Html.fromHtml("<b>" + originalText +"</b>");

else if (selectedStyle.equals("ITALIC"))

answer = Html.fromHtml("<i>" + originalText +"</i>");

else if (selectedStyle.equals("NORMAL"))

answer = Html.fromHtml("<normal>" + originalText +"</normal");

return answer;

}

}
```

XML layouts:

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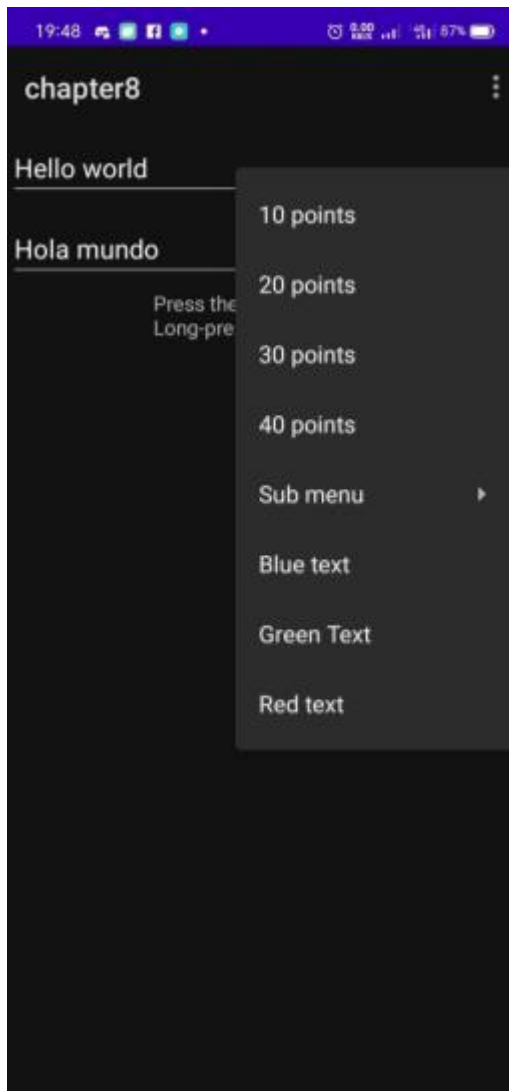
```xml
<?xml version="1.0" encoding="utf-8"?>

<LinearLayout 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:orientation="vertical"

 android:layout_width="match_parent"
```
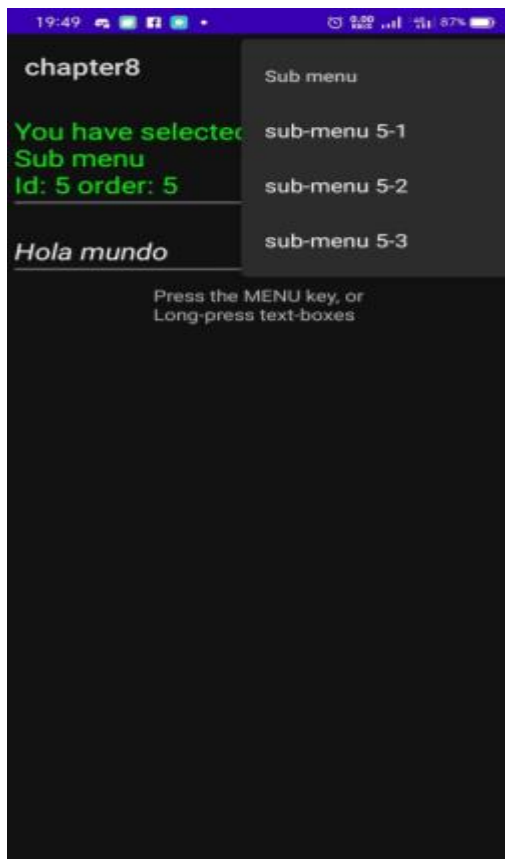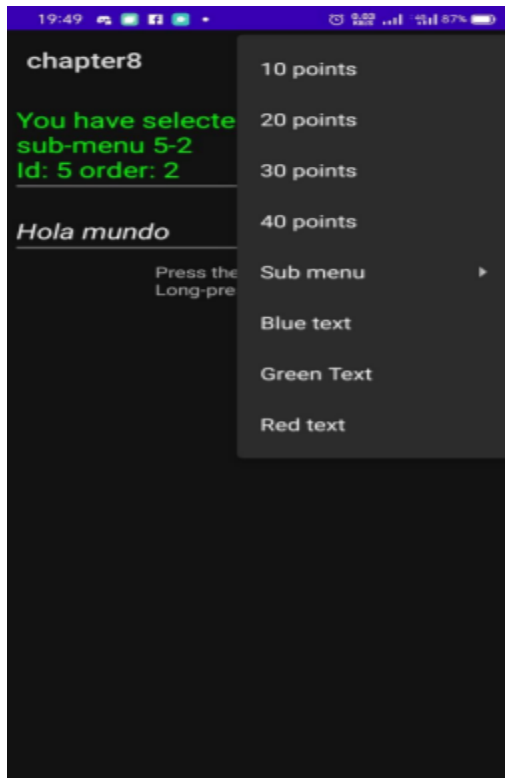
```xml
    android:layout_height="match_parent"

    tools:context=".MainActivity">

    <EditText

    android:id="@+id/etMessage1"

    android:text="Hello world"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_margin = "5dp" />

    <EditText

    android:id="@+id/etMessage2"

    android:text="Hola mundo"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_margin = "5dp" />

    <TextView

    android:text="Press the MENU key, or \nLong-press text-boxes"

    android:layout_width="wrap_content"

    android:layout_height="wrap_content"

    android:layout_gravity="center" />

    </LinearLayout>
```

Screenshots:

Chapter 9

Java classes:

MainActivity.java

```java
package com.example.chapter9;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Typeface;

import android.os.Bundle;

import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

 @Override

 protected void onCreate(Bundle savedInstanceState) {

 super.onCreate(savedInstanceState);

 setContentView(R.layout.activity_main);

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

 Typeface typeface = Typeface.createFromAsset(getAssets(),"fonts/mvboli.ttf");

 textView.setTypeface(typeface);

 }

}
```

Xml layouts:

activity_main.xml

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

<TableLayout 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:orientation="vertical"

 android:stretchColumns="1"

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

```xml
<TableRow
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="horizontal"
android:id="@+id/row1">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:background="#ff006666"
android:layout_marginRight="24px"
android:text="sans:"
android:textSize="20sp"
/>
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Hello, world!"
android:textSize="20sp"
android:typeface="sans"
/>
</TableRow>
<TableRow
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:orientation="horizontal"
android:id="@+id/row2">
<TextView
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:background="#ff006666"
```

```
android:layout_marginRight="24px"

android:text="sans:"

android:textSize="20sp"

/>

<TextView

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="Hello, world!"

android:textSize="20sp"

android:typeface="serif"

/>

</TableRow>

<TableRow

android:layout_width="match_parent"

android:layout_height="wrap_content"

android:orientation="horizontal"

android:id="@+id/row3">

<TextView

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:background="#ff006666"

android:layout_marginRight="24px"

android:text="sans:"

android:textSize="20sp"

/>

<TextView

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="Hello, world!"

android:textSize="20sp"
```

```xml
        android:typeface="monospace"
        />
    </TableRow>
    <TableRow
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:id="@+id/row4">
        <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="#ff006666"
        android:layout_marginRight="24px"
        android:text="sans:"
        android:textSize="20sp"
        />
        <TextView
        android:id="@+id/custom"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello, world!"
        android:textSize="20sp"
        />
    </TableRow>
</TableLayout>
```

Screenshot: