Lab Manual

Lab (3): Android widgets

Visual Programming for Smart Devices lab

Instructor: Oraib M Alrashdan

❖ Objectives:

- Using widget
- Using widget attributes.
- Using toast message.
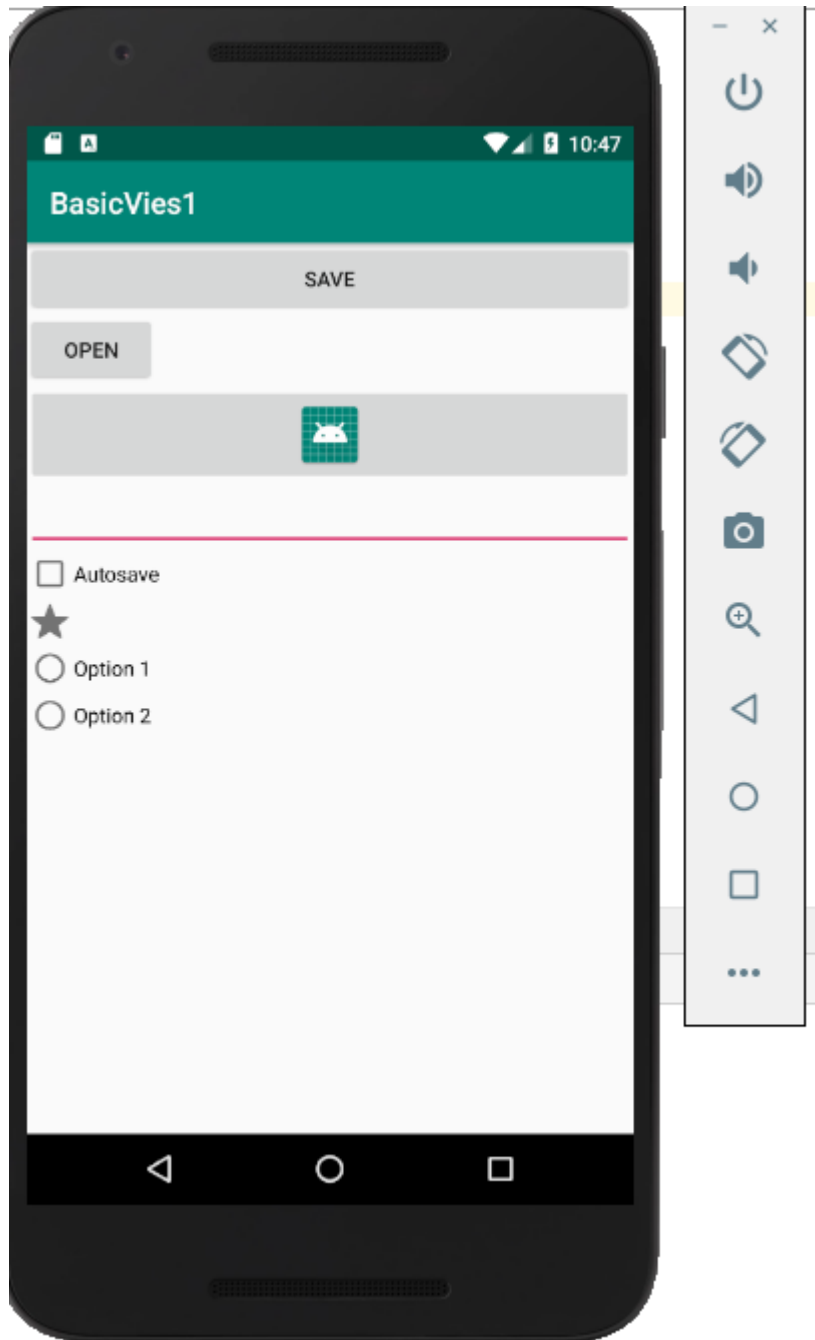
Example: An Application using widgets.

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```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="fill_parent"
    android:layout_height="fill_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/btnSave"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Save"
        />
    <Button
        android:id="@+id/btnOpen"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Open"
        />
    <ImageButton
        android:id="@+id/btnImg1"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:src="@mipmap/ic_launcher"
        />
    <EditText
        android:id="@+id/txtName"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content" />
    <CheckBox
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/chkAutosave"
        android:text="Autosave"
        />
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/chkAutostart"
        style="?android:attr/starStyle"
        />
    <RadioGroup
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:id="@+id/rdbGp1"
        android:orientation="vertical"
        >
    <RadioButton
        android:id="@+id/rdb1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Option 1"/>
    <RadioButton
        android:id="@+id/rdb2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Option 2"/>
    </RadioGroup>

</LinearLayout>
```

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```java
package com.example.oraibpc.basicvies1;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.RadioGroup;
import android.widget.RadioButton;
import android.widget.ToggleButton;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

        Button btnOpen = (Button)
                findViewById(R.id.btnOpen);
        btnOpen.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                DisplayToast("You have clicked the Open button");
            }
        });
        Button btnSave = (Button)
                findViewById(R.id.btnSave);
        btnSave.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                DisplayToast("You have clicked the Save button");
            }
        });
        final CheckBox checkBox = (CheckBox)
                findViewById(R.id.chkAutosave);
        checkBox.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (((CheckBox) v).isChecked())
                    DisplayToast("CheckBox is checked");
                else
                    DisplayToast("CheckBox is unchecked");
            }
        });
        RadioGroup radioGroup = (RadioGroup) findViewById(R.id.rdbGp1);
        radioGroup.setOnCheckedChangeListener(new
RadioGroup.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(RadioGroup group, int checkedId) {
                RadioButton rb1 = (RadioButton) findViewById(R.id.rdb1);
                if (rb1.isChecked())
                    DisplayToast("Option 1 checked");
                else
                    DisplayToast("Option 2 checked");

            }
        });
    }
    private void DisplayToast(String msg) {
        Toast.makeText(getBaseContext(),msg,Toast.LENGTH_SHORT).show();
    }
}
```

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Task 1: Write your code to design the following application:

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Task 2: Write your code to design the following application:

My Application

please enter the number:

FIND THE FACTORIAL

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