



Mad 17to13 - Mad practicals notes and assignment

Software development (D. Y. Patil College of Engineering & Technology)

P17

File: activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<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="example.javatpoint.com.activitylifecycle.MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

MainActivity.java : -

```
package example.javatpoint.com.activitylifecycle;

import android.app.Activity;
import android.os.Bundle;
import android.util.Log;

public class MainActivity extends Activity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle", "onCreate invoked");
    }

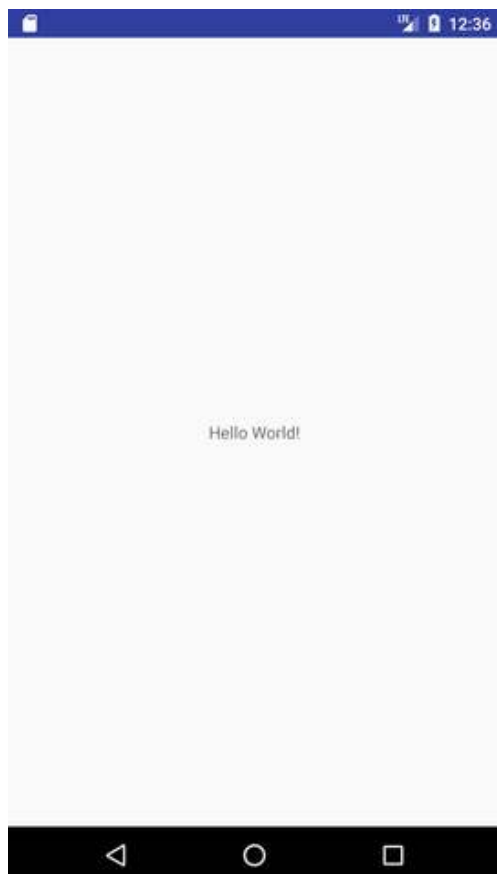
    @Override
    protected void onStart() {
        super.onStart();
        Log.d("lifecycle", "onStart invoked");
    }

    @Override
    protected void onResume() {
```

```

        super.onResume();
        Log.d("lifecycle","onResume invoked");
    }
    @Override
    protected void onPause() {
        super.onPause();
        Log.d("lifecycle","onPause invoked");
    }
    @Override
    protected void onStop() {
        super.onStop();
        Log.d("lifecycle","onStop invoked");
    }
    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d("lifecycle","onRestart invoked");
    }
    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d("lifecycle","onDestroy invoked");
    }
}

```



You will not see any output on the emulator or device. You need to open logcat.

Now click on the HOME Button. You will see onPause method is invoked.

Now see on the logcat: onRestart, onStart and onResume methods are invoked.

After a while, you will see onStop and onDestroy methods are invoked.

```
Logcat
Emulator Nexus_5X_API_24 Android 7.0, API 24 example.javatpoint.com.activitylifecycle (8079) Verbose [Q] [X] Regexp

06-29 12:35:28.709 1572-1685/? W/ActivityManager: Slow operation: 55ms so far, now at startProcess: building log message
06-29 12:35:28.709 1572-1685/? I/ActivityManager: Start proc 8079:example.javatpoint.com.activitylifecycle/u0a103 for activ
06-29 12:35:28.709 1572-1685/? W/ActivityManager: Slow operation: 55ms so far, now at startProcess: starting to update pids
06-29 12:35:28.709 1572-1685/? W/ActivityManager: Slow operation: 60ms so far, now at startProcess: done updating pids map
06-29 12:35:28.779 1969-2101/? D/EGL_emulation: eglMakeCurrent: 0x9a078f00: ver 2 0 (tinfo 0xa3b30530)
06-29 12:35:28.938 1288-3657/? D/gralloc_ranchu: gralloc_alloc: Creating ashmem region of size 8294400
06-29 12:35:29.091 8079-8079/example.javatpoint.com.activitylifecycle W/System: ClassLoader referenced unknown path: /data/
06-29 12:35:29.123 8079-8079/example.javatpoint.com.activitylifecycle I/InstantRun: starting instant run server: is main p
06-29 12:35:29.234 8079-8079/example.javatpoint.com.activitylifecycle D/lifecycle: onCreate invoked
06-29 12:35:29.236 8079-8079/example.javatpoint.com.activitylifecycle D/lifecycle: onStart invoked
06-29 12:35:29.240 8079-8079/example.javatpoint.com.activitylifecycle D/lifecycle: onResume invoked
06-29 12:35:29.250 1288-1307/? E/SurfaceFlinger: ro.sf.lcd_density must be defined as a build property

[ 06-29 12:35:29.256 8079: 8079 D/
HostConnection::get() New Host Connection established 0x983ba480, tid 8079

[ 06-29 12:35:29.871 8079: 8096 D/
HostConnection::get() New Host Connection established 0x983ba700, tid 8096

06-29 12:35:29.873 1572-1592/? I/Choreographer: Skipped 57 frames! The application may be doing too much work on its main
06-29 12:35:30.032 8079-8096/example.javatpoint.com.activitylifecycle I/OpenGLRenderer: Initialized EGL, version 1.4
```

```
Logcat
Emulator Nexus_5X_API_24 Android 7.0, API 24 example.javatpoint.com.activitylifecycle (8079) Verbose [Q] [X] Regexp

06-29 12:36:33.067 8121-8121/? D/AndroidRuntime: Calling main entry com.android.commands.am.Am
06-29 12:36:33.082 8129-8129/? W/art: Unexpected CPU variant for X86 using defaults: x86
06-29 12:36:33.086 1572-1585/? I/ActivityManager: Start proc 8129:android.process.media/u0a11 for broadcast com.android.pro
06-29 12:36:33.129 8129-8129/? W/System: ClassLoader referenced unknown path: /system/priv-app/MediaProvider/lib/x86
06-29 12:36:33.142 8129-8129/? W/System: ClassLoader referenced unknown path: /system/priv-app/DownloadProvider/lib/x86
06-29 12:36:33.221 8129-8129/? D/MediaScannerReceiver: action: android.intent.action.MEDIA_SCANNER_SCAN_FILE path: /data/lo
06-29 12:36:33.223 8121-8121/? D/AndroidRuntime: Shutting down VM
06-29 12:39:53.751 1572-1581/? I/art: Background sticky concurrent mark sweep GC freed 24770(2MB) AllocSpace objects, 1(68
06-29 12:40:23.602 1572-1581/? I/art: Background sticky concurrent mark sweep GC freed 19140(2MB) AllocSpace objects, 1(68
06-29 12:40:33.655 1572-1581/? I/art: Background sticky concurrent mark sweep GC freed 24332(2MB) AllocSpace objects, 1(68
06-29 12:41:43.406 1572-1604/? I/ActivityManager: START u0 {act=android.intent.action.MAIN cat=[android.intent.category.HOM
06-29 12:41:43.425 8079-8079/example.javatpoint.com.activitylifecycle D/lifecycle: onPause invoked
06-29 12:41:43.464 1288-1307/? D/gralloc_ranchu: gralloc_alloc: Creating ashmem region of size 2691072
```

```
Logcat
Emulator Nexus_5X_API_24 Android 7.0, API 24 example.javatpoint.com.activitylifecycle (8079) Verbose [Q] [X] Regexp

[ 06-29 12:41:43.485 1572: 1604 D/
HostConnection::get() New Host Connection established 0x98d96180, tid 1604

06-29 12:41:43.510 1288-1288/? E/EGL_emulation: tid 1288: eglCreateSyncKHR(1901): error 0x3004 (EGL_BAD_ATTRIBUTE)
06-29 12:41:43.671 1572-1581/? I/art: Background partial concurrent mark sweep GC freed 24948(2MB) AllocSpace objects, 41(9
06-29 12:41:43.841 8079-8096/example.javatpoint.com.activitylifecycle D/EGL_emulation: eglMakeCurrent: 0x9a0b2500: ver 2 0
06-29 12:41:44.103 1644-1673/? I/art: Background partial concurrent mark sweep GC freed 37910(1262KB) AllocSpace objects, 0
06-29 12:41:44.208 8079-8079/example.javatpoint.com.activitylifecycle D/lifecycle: onStop invoked
06-29 12:41:44.339 1572-1581/? I/art: Background partial concurrent mark sweep GC freed 22835(2MB) AllocSpace objects, 2(88
06-29 12:41:44.445 1969-2101/? D/EGL_emulation: eglMakeCurrent: 0x9a078f00: ver 2 0 (tinfo 0xa3b30530)
06-29 12:41:44.946 1969-2101/? W/OpenGLRenderer: Incorrectly called buildLayer on View: ShortcutAndWidgetContainer, destroy
06-29 12:42:03.831 1572-1581/? I/art: Background sticky concurrent mark sweep GC freed 28942(3MB) AllocSpace objects, 4(128
06-29 12:45:13.804 1572-1581/? I/art: Background sticky concurrent mark sweep GC freed 29737(3MB) AllocSpace objects, 3(156
```

```
Logcat
Emulator Nexus_5X_API_24 Android 7.0, API 24 example.javatpoint.com.activitylifecycle (8079) Verbose [Q] [X] Regexp

06-29 12:50:31.689 8454-8454/? D/AndroidRuntime: Shutting down VM
06-29 12:51:11.737 1644-1879/? D/EGL_emulation: eglMakeCurrent: 0x980c85c0: ver 2 0 (tinfo 0x9a0ea4f0)
06-29 12:51:11.879 1331-1361/? W/audio_hw_generic: Not supplying enough data to HAL, expected position 5936865 , only wrote
06-29 12:51:11.879 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.879 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.895 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.911 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.925 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.944 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.955 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.975 8079-8079/example.javatpoint.com.activitylifecycle D/lifecycle: onPause invoked
06-29 12:51:11.983 1331-1361/? W/audio_hw_generic: Hardware backing HAL too slow, could only write 0 of 720 frames
06-29 12:51:11.996 1288-3657/? D/gralloc_ranchu: gralloc_alloc: Creating ashmem region of size 2691072
```

File: *activity_main.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="example.javatpoint.com.timepicker.MainActivity">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_above="@+id/button1"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_marginBottom="102dp"
        android:layout_marginLeft="30dp"
        android:layout_marginStart="30dp"
        android:text="" />

    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentBottom="true"
        android:layout_centerHorizontal="true"
        android:layout_marginBottom="20dp"
        android:text="Change Time" />

    <TimePicker
        android:id="@+id/timePicker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_above="@+id/textView1"
        android:layout_centerHorizontal="true"
        android:layout_marginBottom="36dp" />
</RelativeLayout>
```

MainActivity.java

```
package example.javatpoint.com.timepicker;

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

```

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.TimePicker;

public class MainActivity extends AppCompatActivity {
    TextView textview1;
    TimePicker timepicker;
    Button changetime;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

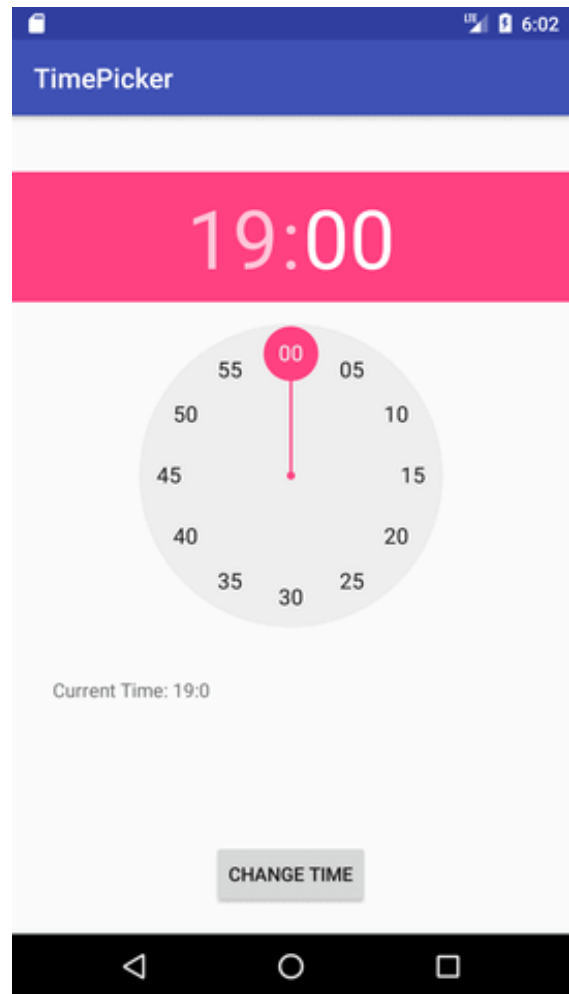
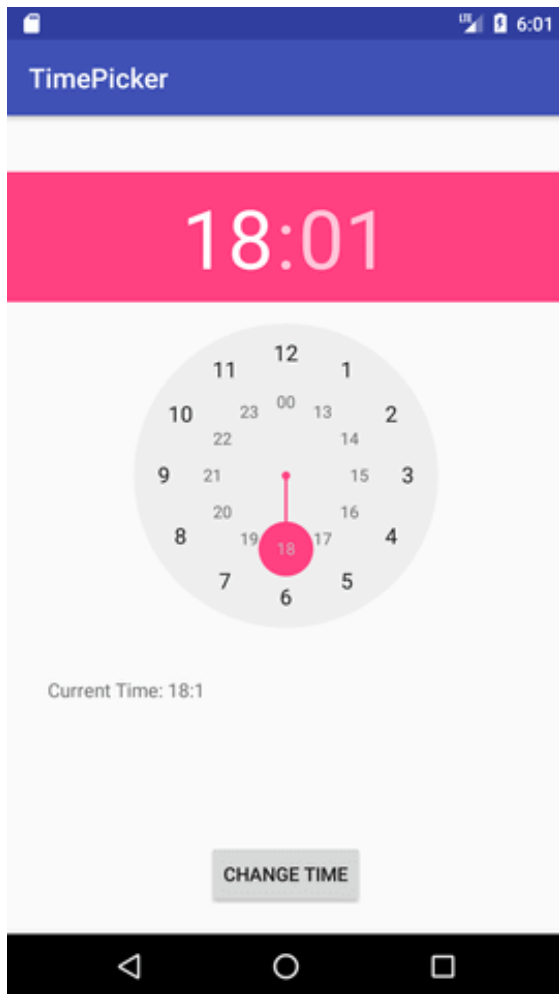
        textview1=(TextView)findViewById(R.id.textView1);
        timepicker=(TimePicker)findViewById(R.id.timePicker);
        //Uncomment the below line of code for 24 hour view
        timepicker.setIs24HourView(true);
        changetime=(Button)findViewById(R.id.button1);

        textview1.setText(getCurrentTime());

        changetime.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view) {
                textview1.setText(getCurrentTime());
            }
        });
    }

    public String getCurrentTime(){
        String currentTime="Current Time: "+timepicker.getCurrentHour()
        +":"+timepicker.getCurrentMinute();
        return currentTime;
    }
}

```



2) activity_main.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="example.javatpoint.com.datepicker.MainActivity">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_above="@+id/button1"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
```

```
android:layout_marginBottom="102dp"
android:layout_marginLeft="30dp"
android:layout_marginStart="30dp"
android:text="" />
```

<Button

```
android:id="@+id/button1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentBottom="true"
android:layout_centerHorizontal="true"
android:layout_marginBottom="20dp"
android:text="Change Date" />
```

<DatePicker

```
android:id="@+id/datePicker"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_above="@+id/textView1"
android:layout_centerHorizontal="true"
android:layout_marginBottom="36dp" />
```

</RelativeLayout>

MainActivity.java

```
<?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="example.javatpoint.com.datepicker.MainActivity">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_above="@+id/button1"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:layout_marginBottom="102dp"
        android:layout_marginLeft="30dp"
        android:layout_marginStart="30dp"
        android:text="" />
```

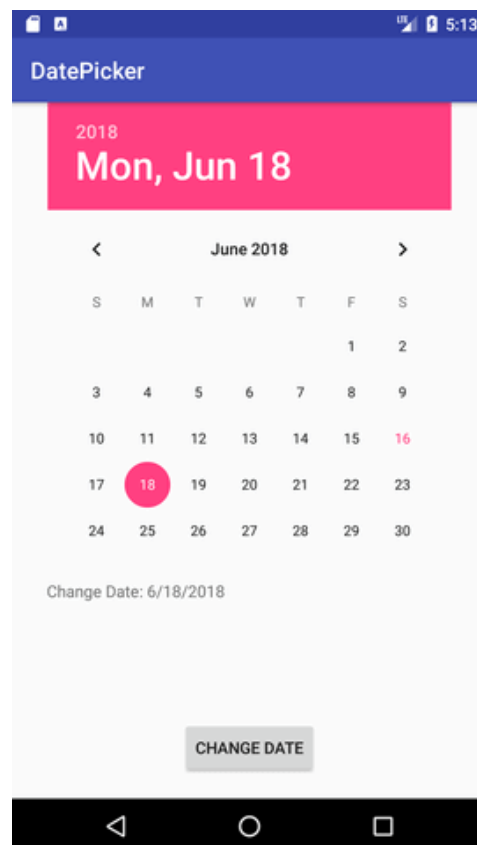
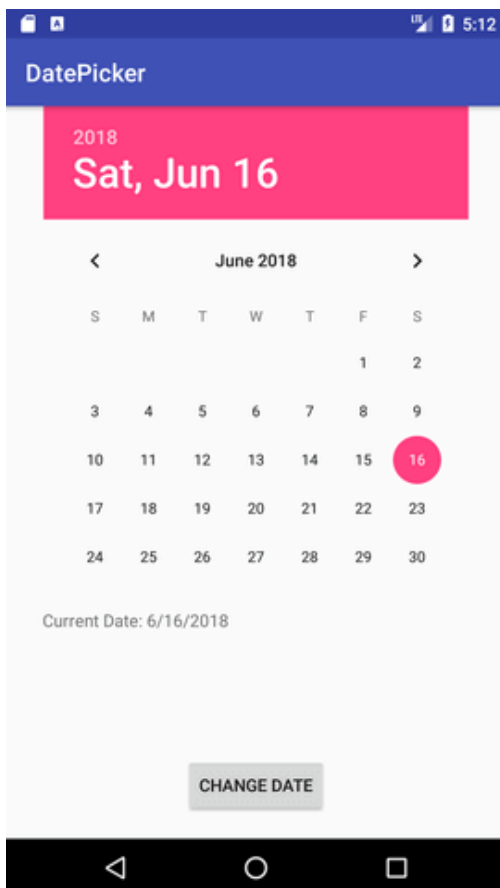

<Button

```
android:id="@+id/button1"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_alignParentBottom="true"  
android:layout_centerHorizontal="true"  
android:layout_marginBottom="20dp"  
android:text="Change Date" />
```

<DatePicker

```
android:id="@+id/datePicker"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_above="@+id/textView1"  
android:layout_centerHorizontal="true"  
android:layout_marginBottom="36dp" />
```

</RelativeLayout>



MainActivity.java

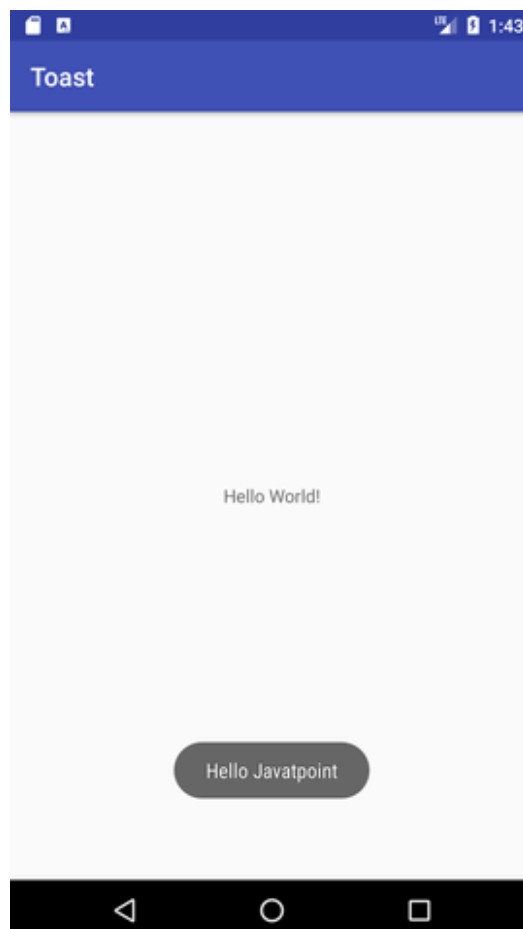
```
package example.javatpoint.com.toast;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

        //Displaying Toast with Hello Javatpoint message
        Toast.makeText(getApplicationContext(),"Hello Javatpoint",Toast.LENGTH_
SHORT).show();
    }
}
```



2)

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<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="example.javatpoint.com.checkbox.MainActivity">
```

```
<CheckBox
    android:id="@+id/checkBox"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="144dp"
    android:layout_marginTop="68dp"
    android:text="Pizza"
    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:layout_marginLeft="144dp"
    android:layout_marginTop="28dp"
    android:text="Coffee"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/checkBox" />
```

```
<CheckBox
    android:id="@+id/checkBox3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="144dp"
    android:layout_marginTop="28dp"
    android:text="Burger"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/checkBox2" />
```

```
<Button
    android:id="@+id/button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginLeft="144dp"
```

```

        android:layout_marginTop="184dp"
        android:text="Order"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/checkBox3" />

```

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

MainActivity.java

```

package example.javatpoint.com.checkbox;

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.Toast;

public class MainActivity extends AppCompatActivity {
    CheckBox pizza,coffe,burger;
    Button buttonOrder;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        addListenerOnButtonClick();
    }
    public void addListenerOnButtonClick(){
        //

```

Getting instance of CheckBoxes and Button from the activity_main.xml file

```

        pizza=(CheckBox)findViewById(R.id.checkBox);
        coffe=(CheckBox)findViewById(R.id.checkBox2);
        burger=(CheckBox)findViewById(R.id.checkBox3);
        buttonOrder=(Button)findViewById(R.id.button);

```

```

//Applying the Listener on the Button click
buttonOrder.setOnClickListener(new View.OnClickListener(){

```

```

    @Override
    public void onClick(View view) {
        int totalamount=0;
        StringBuilder result=new StringBuilder();
        result.append("Selected Items:");
        if(pizza.isChecked()){
            result.append("\nPizza 100Rs");
            totalamount+=100;
        }
        if(coffe.isChecked()){

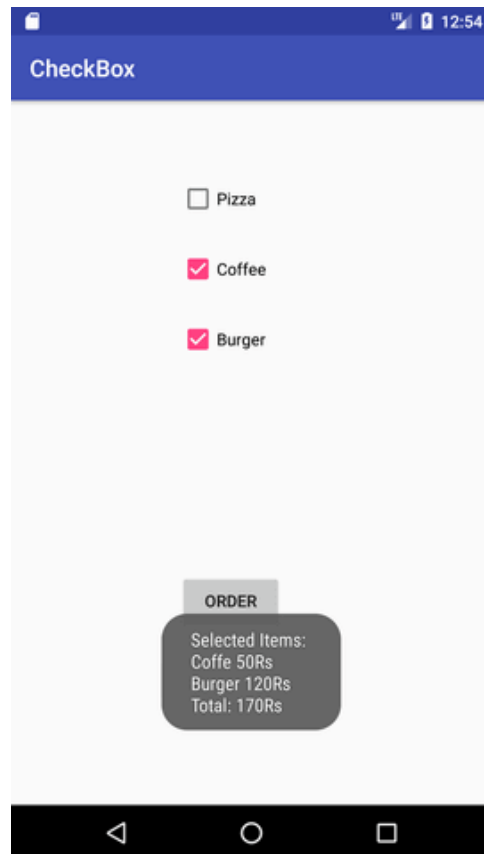
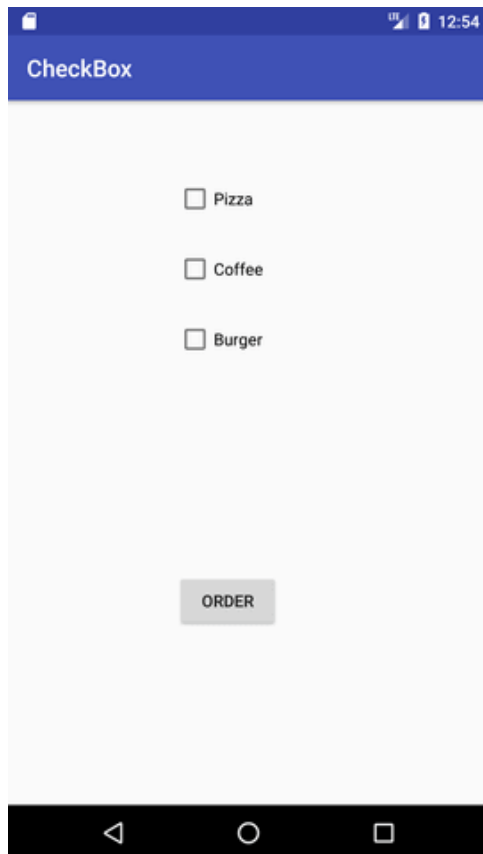
```

```

        result.append("\nCoffe 50Rs");
        totalamount+=50;
    }
    if(burger.isChecked()){
        result.append("\nBurger 120Rs");
        totalamount+=120;
    }
    result.append("\nTotal: "+totalamount+"Rs");
    //Displaying the message on the toast
    Toast.makeText(getApplicationContext(), result.toString(), Toast.LENGTH_LONG).show();
}

});
}
}

```



activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<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="listview.example.com.listview.MainActivity">

    <ListView
        android:id="@+id/listView"
        android:layout_width="match_parent"
        android:layout_height="fill_parent"
    />
</android.support.constraint.ConstraintLayout>

```

mylist.xml

```

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

<TextView xmlns:android="http://schemas.android.com/apk/res/
android"
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Medium Text"
    android:textStyle="bold"
    android:textAppearance="?android:attr/textAppearanceMedium"
    android:layout_marginLeft="10dp"
    android:layout_marginTop="5dp"
    android:padding="2dp"
    android:textColor="#4d4d4d"
/>

```

strings.xml

```

<resources>
    <string name="app_name">ListView</string>
    <string-array name="array_technology">
        <item>Android</item>
        <item>Java</item>
        <item>Php</item>
        <item>Hadoop</item>
    </string-array>

```

```

        <item>Sap</item>
        <item>Python</item>
        <item>Ajax</item>
        <item>C++</item>
        <item>Ruby</item>
        <item>Rails</item>
        <item>.Net</item>
        <item>Perl</item>
    </string-array>
</resources>

```

MainActivity.java

```

package listview.example.com.listview;

```

```

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;

```

```

public class MainActivity extends AppCompatActivity {
    ListView listView;
    TextView textView;
    String[] listItem;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        listView=(ListView)findViewById(R.id.listView);
        textView=(TextView)findViewById(R.id.textView);
        listItem = getResources().getStringArray(R.array.array_technology);
        final ArrayAdapter<String> adapter = new ArrayAdapter<String>(this,
            android.R.layout.simple_list_item_1, android.R.id.text1, listItem);

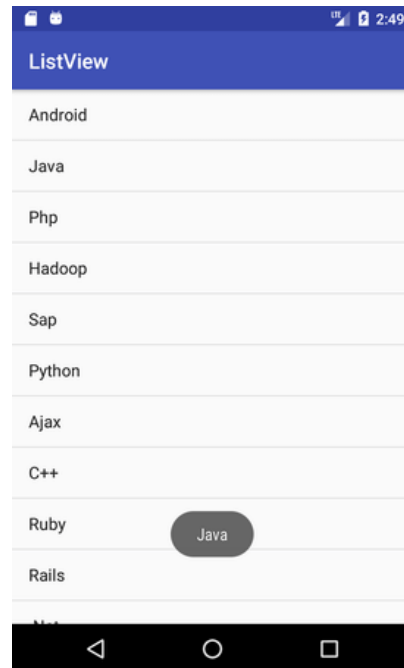
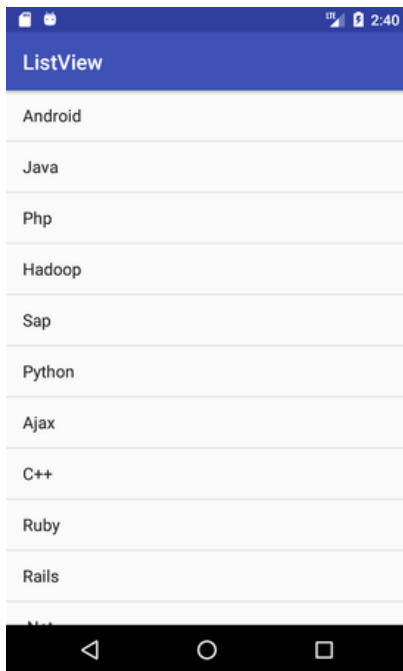
        listView.setAdapter(adapter);

        listView.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> adapterView, View view, int position, long l) {
                // TODO Auto-generated method stub
                String value=adapter.getItem(position);
            }
        });
    }
}

```

```
Toast.makeText(getApplicationContext(),value,Toast.LENGTH_S  
HORT).show();
```

```
    }  
    });  
}  
}
```



2)

XML File(res/layout/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:id="@+id/activity_main"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    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="codedost.imagechange.MainActivity">

<ImageView
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:layout_centerHorizontal="true"
    android:id="@+id/img1"/>

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/img1"
        android:layout_centerHorizontal="true"
        android:text="Change Image"
        android:id="@+id/button"/>
</RelativeLayout>

```

MainActivity.java

```

package codedost.imagechange;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;

public class MainActivity extends
AppCompatActivity {

    Button b1;
    ImageView iv;
    boolean flag;
    int
images[]={R.drawable.ic1,R.drawable.ic2,R.drawable
.ic3};

```

```

    int i=0;

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

        iv=(ImageView) findViewById(R.id.img1);
        b1=(Button) findViewById(R.id.button);

        flag=true;

        b1.setOnClickListener(new
View.OnClickListener() {
            @Override
            public void onClick(View v) {
                iv.setImageResource(images[i]);
                i++;
                if(i==3)
                    i=0;
            }
        });
    }
}

```

Output

3)

AndroidManifest.xml:

2

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.blogspot.codingatharva.manualprograms">

<application
    android:allowBackup="true"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/AppTheme">
    <activity android:name=".MainActivity">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

            <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
    </activity>
</application>

</manifest>

```

MainActivity.java:

```

package com.blogspot.codingatharva.manualprograms;

import android.os.Bundle;
import android.widget.AdapterView;
import android.widget.GridView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    GridView gridview;
    String arr[] = new String[15];

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

        gridview = findViewById(R.id.gridview);

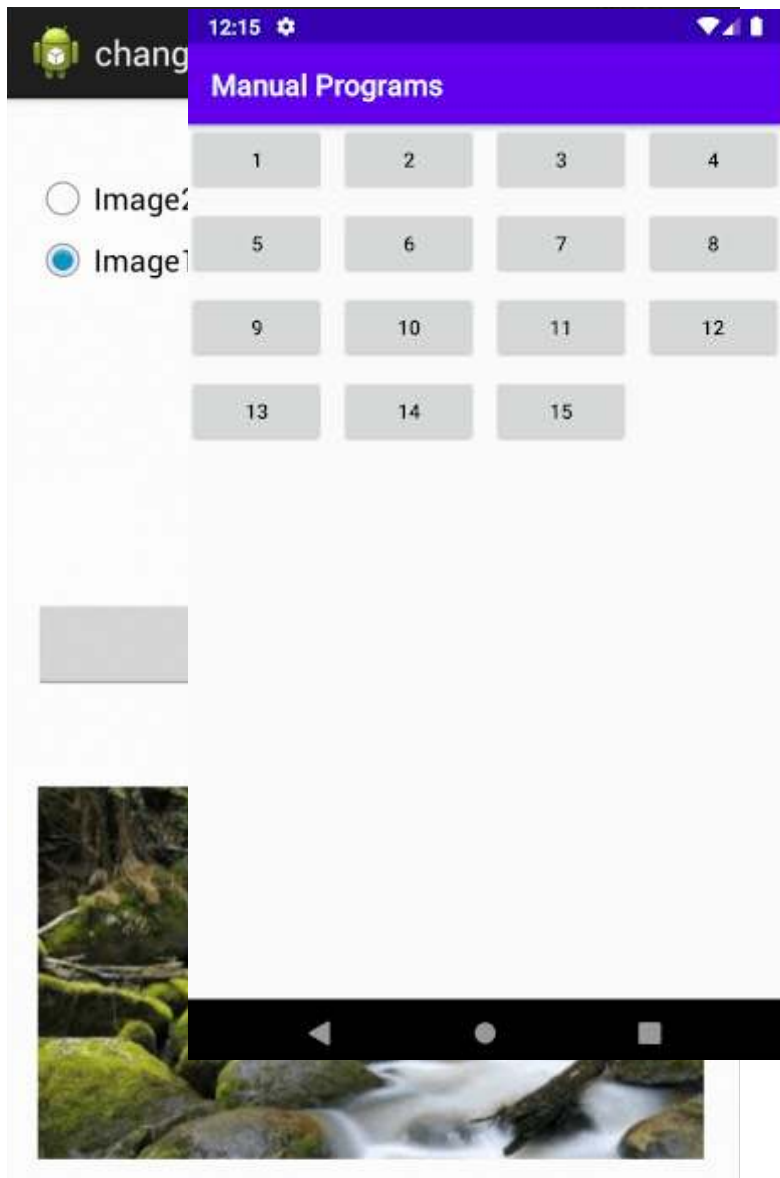
        for (int i = 0; i < 15; i++) {
            arr[i] = Integer.toString(i + 1);
        }

        ArrayAdapter<String> ad = new ArrayAdapter<String>(this, R.layout.activity_listview, R.id.bt

        gridview.setAdapter(ad);

    }

```



activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    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:orientation="vertical"
    tools:context="example.javatpoint.com.radiobutton.MainActivity">

    <TextView
        android:id="@+id/textView1"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="30dp"
        android:gravity="center_horizontal"
        android:textSize="22dp"
        android:text="Single Radio Buttons" />

    <!-- Default RadioButtons -->

    <RadioButton
        android:id="@+id/radioButton1"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:text="Radio Button 1"
        android:layout_marginTop="20dp"

        android:textSize="20dp" />

    <RadioButton
        android:id="@+id/radioButton2"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="Radio Button 2"
        android:layout_marginTop="10dp"

        android:textSize="20dp" />
```

<View

```
android:layout_width="fill_parent"
android:layout_height="1dp"
android:layout_marginTop="20dp"
android:background="#B8B894" />
```

<TextView

```
android:id="@+id/textView2"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:layout_marginTop="30dp"
android:gravity="center_horizontal"
android:textSize="22dp"
android:text="Radio button inside RadioGroup" />
```

<!-- Customized RadioButtons -->

<RadioGroup

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:id="@+id/radioGroup">
```

<RadioButton

```
android:id="@+id/radioMale"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:text=" Male"
android:layout_marginTop="10dp"
android:checked="false"
android:textSize="20dp" />
```

<RadioButton

```
android:id="@+id/radioFemale"
android:layout_width="fill_parent"
android:layout_height="wrap_content"
android:text=" Female"
android:layout_marginTop="20dp"
android:checked="false"
```

```
android:textSize="20dp" />
```

</RadioGroup>

<Button

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

```

        android:layout_height="wrap_content"
        android:text="Show Selected"
        android:id="@+id/button"
        android:onClick="onclickbuttonMethod"
        android:layout_gravity="center_horizontal" />

```

</LinearLayout>

MainActivity.java

```

package example.javatpoint.com.radiobutton;

```

```

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

```

```

public class MainActivity extends AppCompatActivity {
    Button button;
    RadioButton genderradioButton;
    RadioGroup radioGroup;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        radioGroup=(RadioGroup)findViewById(R.id.radioGroup);
    }
    public void onclickbuttonMethod(View v){
        int selectedId = radioGroup.getCheckedRadioButtonId();
        genderradioButton = (RadioButton) findViewById(selectedId);
        if(selectedId!=-1){
            Toast.makeText(MainActivity.this,"Nothing selected", Toast.LENGTH_SHORT).show();
        }
        else{
            Toast.makeText(MainActivity.this,genderradioButton.getText(), Toast.LENGTH_SHORT).show();
        }
    }
}

```