Cycle 1

1. Develop a Simple Android Application that print Hello using a Text view
2. Android Application to add two numbers
3. Display a Toast message when you Click a button
4. Design a user interface using linear layout with vertical orientation
5. Design a user interface using Table Layout
6. Design a user interface using Absolute Layout
7. Design a user interface using Relative Layout (Design login page)
8. Design a user interface using Grid View
9. Write a program to design a User Interface using Normal List View
10. Write a program to design a User Interface using Image button - Add Image to Resources
11. Write a program to design a User Interface using Widget **-**Radio Button
12. Write a Android Program to Start and Stop a Service in Android

2. Android Application to add two numbers

MainActivity .java

**import** android.support.v7.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 EditText **t1**,**t2**;  
 Button **b**;  
 TextView **t**;  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 **t1**=(EditText)findViewById(R.id.***editText***);  
 **t2**=(EditText)findViewById(R.id.***editText2***);  
 **t**=(TextView)findViewById(R.id.***textView***);  
 **b**=(Button)findViewById(R.id.***button***);  
  
 **b**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
  
  
 String a=**t1**.getText().toString();  
 String b=**t2**.getText().toString();  
  
 **int** c=Integer.*parseInt*(a)+Integer.*parseInt*(b);  
  
 **t**.setText(String.*valueOf*(c));  
  
  
 }  
 });  
 }  
}

3. Display a Toast message when you Click a button

MainActivity .java

**import** android.os.Bundle;  
**import** android.support.v7.app.ActionBarActivity;  
**import** android.view.Menu;  
**import** android.view.View;  
**import** android.widget.Toast;  
  
  
**public class** MainActivity **extends** ActionBarActivity {  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 }  
  
 *//Display toast on button click*

*//set onclick() property of button as “displayingToast”( userdefined function )-------*

**//android:onClick="displayingToast"**

**public void** displayingToast(View view) {  
  
 Toast.*makeText*(MainActivity.**this**, **"Hello Toast Message!"**, Toast.***LENGTH\_LONG***).show();  
  
 }  
}

4. Design a user interface using linear layout with vertical orientation

//Test the properties – layout\_gravity and padding for each controls

<**LinearLayout 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:paddingLeft="100dp"  
  
 tools:context="com.example.mca.myapplication.MainActivity"  
 android:orientation="vertical"** >  
  
 <**EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center\_horizontal"  
 android:text="to"** />  
  
 <**EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_gravity="center\_horizontal"  
  
 android:hint="from"** />  
  
 <**EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
  
 android:hint="message"  
 android:layout\_gravity="center\_horizontal"  
 android:gravity="right"** />  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
  
 android:layout\_gravity="center\_horizontal"  
  
 android:text="send"** />

</LinearLayout>

5. Design a user interface using Table Layout

Activity\_main.xml

<**TableLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:id="@+id/tableLayout1"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="fill\_parent"** >  
  
 *<!-- 2 columns -->* <**TableRow  
 android:id="@+id/tableRow1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:padding="5dip"** >  
  
 <**TextView  
 android:id="@+id/textView1"  
 android:text="Column 1" />** <**Button  
 android:id="@+id/button1"  
 android:text="Column 2"** />  
 </**TableRow**>

*<!-- edittext span 2 column -->* <**TableRow>**   
 <**EditText  
 android:id="@+id/editText1"  
 android:layout\_span="2"  
 android:text="Column 1 "** />  
 </**TableRow**>  
 *<!-- 3 columns -->* <**TableRow>**   
 <**TextView  
 android:id="@+id/textView2"  
 android:text="Column 1"** />  
  
 <**Button  
 android:id="@+id/button2"  
 android:text="Column 2"** />  
  
 <**Button  
 android:id="@+id/button3"  
 android:text="Column 3"** />  
 </**TableRow**>  
 *<!-- display this button in 3rd column via layout\_column(zero based) -->* <**TableRow**>  
  
 <**Button  
 android:id="@+id/button4"  
 android:layout\_column="3"  
 android:text="Column 4"** />  
 </**TableRow>**

</**TableLayout**>

6. Design a user interface using Absolute Layout

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

## android:layout\_width="fill\_parent"

## android:layout\_height="fill\_parent">

## 

## <Button

## android:layout\_width="100dp"

## android:layout\_height="wrap\_content"

## android:text="OK"

## android:layout\_x="50px"

## android:layout\_y="361px" />

## <Button

## android:layout\_width="100dp"

## android:layout\_height="wrap\_content"

## android:text="Cancel"

## android:layout\_x="225px"

## android:layout\_y="361px" />

## </AbsoluteLayout>

8. Design a user interface using Grid View

Note:

Give properties-🡪, numColumns=autofit and columnwidth=100dp of gridview

**import** android.app.Activity;  
**import** android.os.Bundle;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.widget.AdapterView;  
**import** android.widget.ArrayAdapter;  
**import** android.widget.GridView;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
**import** android.view.View;  
**import** android.widget.AdapterView.OnItemClickListener;  
  
  
**public class** MainActivity **extends** AppCompatActivity {  
  
 GridView **gg**;  
  
 **static final** String[] ***numbers*** = **new** String[] {“Abin”,”Bobin”,”Cibin”,”Digin”,”Ebin”,”Fibin”,

**"A"**, **"B"**, **"C"**, **"D"**, **"E"**,  
 **"F"**, **"G"**, **"H"**, **"I"**, **"J"**,  
 **"K"**, **"L"**, **"M"**, **"N"**, **"O"**,  
 **"P"**, **"Q"**, **"R"**, **"S"**, **"T"**,  
 **"U"**, **"V"**, **"W"**, **"X"**, **"Y"**, **"Z"**  
 };  
  
  
 **public void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
  
 setContentView(R.layout.***activity\_main***);

**gg**= (GridView) findViewById(R.id.***gridView1***);  
 ArrayAdapter<String> adapter = **new** ArrayAdapter<String>(**this**,  
 android.R.layout.***simple\_list\_item\_1***, ***numbers***);  
 **gg**.setAdapter(adapter);

//for display a Toast message for clicking on an item  
  
 **gg**.setOnItemClickListener(**new** OnItemClickListener() {  
 **public void** onItemClick(AdapterView<?> parent, View v,  
 **int** position, **long** id) {  
 Toast.*makeText*(getApplicationContext(),  
 ((TextView) v).getText(), Toast.***LENGTH\_LONG***).show();  
 }  
 });  
  
 }  
  
}

9. Write a program to design a User Interface using Normal List View

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

## android:layout\_width="fill\_parent"

## android:layout\_height="fill\_parent"

## android:padding="10dp"

## android:textSize="20sp" >

## </TextView>

**package** com.example.shajan\_lp.myapplication;  
  
**import** android.app.ListActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.AdapterView;  
**import** android.widget.ArrayAdapter;  
**import** android.widget.ListView;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
**import** android.widget.AdapterView.OnItemClickListener;  
  
**public class** MainActivity **extends** ListActivity {  
  
 **static final** String[] ***FRUITS*** = **new** String[] { **"Apple"**, **"Avocado"**, **"Banana"**,  
 **"Blueberry"**, **"Coconut"**, **"Durian"**, **"Guava"**, **"Kiwifruit"**,  
 **"Jackfruit"**, **"Mango"**, **"Olive"**, **"Pear"**, **"Sugar-apple"** };  
  
 @Override  
 **public void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
  
 *// no more this  
 // setContentView(R.layout.list\_fruit);* setListAdapter(**new** ArrayAdapter<String>(**this**, R.layout.***activity\_main***,***FRUITS***));  
  
 ListView listView = getListView();  
 listView.setTextFilterEnabled(**true**);  
  
 listView.setOnItemClickListener(**new** OnItemClickListener() {  
 **public void** onItemClick(AdapterView<?> parent, View view,  
 **int** position, **long** id) {  
 *// When clicked, show a toast with the TextView text* Toast.*makeText*(getApplicationContext(),  
 ((TextView) view).getText(), Toast.***LENGTH\_SHORT***).show();  
 }  
 });  
  
 }  
  
}

10.Write a program to design a User Interface using Image button - Add Image to Resources

//set the properties id,src,onclick , tools:src of imagebutton

**public class** MainActivity **extends** AppCompatActivity {  
 ImageButton **imageButton**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
Listening();  
 }  
 **public void** Listening() {  
  
 **imageButton** = (ImageButton) findViewById(R.id.***imageButton***);  
  
 **imageButton**.setOnClickListener(**new** View.OnClickListener() {  
  
 @Override  
 **public void** onClick(View arg0) {  
  
 Toast.*makeText*(MainActivity.**this**,  
 **"ImageButton is clicked!"**, Toast.***LENGTH\_SHORT***).show();  
  
 }  
  
 });  
 }  
}

11. Write a program to design a User Interface using Widget **-**RadioButton

**public class** MainActivity **extends** AppCompatActivity {

**private** RadioGroup **radioSexGroup**;  
 **private** RadioButton **radioSexButton**;  
 **private** Button **btnDisplay**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
  
 }  
*//Display toast on button click*

*//set onclick() property of button as “addListenerOnButton”(userdefined function )---***//android:onClick="addListenerOnButton "**

**public void** addListenerOnButton() {  
  
 **radioSexGroup** = (RadioGroup) findViewById(R.id.***radioSex***);  
 **btnDisplay** = (Button) findViewById(R.id.***btnDisplay***);  
  
 **btnDisplay**.setOnClickListener(**new** View.OnClickListener() {  
  
  
 **public void** onClick(View v) {  
  
 *// get selected radio button from radioGroup* **int** selectedId = **radioSexGroup**.getCheckedRadioButtonId();  
  
 *// find the radiobutton by returned id* **radioSexButton** = (RadioButton) findViewById(selectedId);  
  
 Toast.*makeText*(MainActivity.**this**,  
 **radioSexButton**.getText(), Toast.***LENGTH\_SHORT***).show();  
  
 }  
  
 });  
  
 }  
}

12.Write an Android Program to Start and Stop a Service in Android

MainActivity.java

**public class** MainActivity **extends** Activity {  
 String **msg** = **"Android : "**;  
  
 */\*\* Called when the activity is first created. \*/* @Override  
 **public void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 Log.*d*(**msg**, **"The onCreate() event"**);  
 }  
  
 **public void** startService(View view) {  
 startService(**new** Intent(getBaseContext(), MyService.**class**));  
 }  
  
 *// Method to stop the service* **public void** stopService(View view) {  
 stopService(**new** Intent(getBaseContext(), MyService.**class**));  
 }  
}

MyService.java

Package ………………..  
**import** android.app.Service;  
**import** android.content.Intent;  
**import** android.os.IBinder;  
**import** android.support.annotation.Nullable;  
**import** android.widget.Toast;  
  
  
**public class** MyService **extends** Service {  
 @Nullable  
 @Override  
 **public** IBinder onBind(Intent intent) {  
 **return null**;  
 }  
  
 @Override  
 **public int** onStartCommand(Intent intent, **int** flags, **int** startId) {  
 *// Let it continue running until it is stopped.* Toast.*makeText*(**this**, **"Service Started"**, Toast.***LENGTH\_LONG***).show();  
 **return *START\_STICKY***;  
 }  
  
 @Override  
 **public void** onDestroy() {  
 **super**.onDestroy();  
 Toast.*makeText*(**this**, **"Service Destroyed"**, Toast.***LENGTH\_LONG***).show();  
 }  
}

Activity\_main.xml

<**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" android:paddingLeft="@dimen/activity\_horizontal\_margin"  
 android:paddingRight="@dimen/activity\_horizontal\_margin"  
 android:paddingTop="@dimen/activity\_vertical\_margin"  
 android:paddingBottom="@dimen/activity\_vertical\_margin"**>  
  
 <**TextView  
 android:id="@+id/textView1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Example of services"  
 android:layout\_alignParentTop="true"  
 android:layout\_centerHorizontal="true"  
 android:textSize="30dp"** />  
  
 <**TextView  
 android:id="@+id/textView2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="SNGCE Kolenchery "  
 android:textColor="#ff87ff09"  
 android:textSize="30dp"  
 android:layout\_above="@+id/imageButton"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginBottom="40dp"** />  
  
 <**ImageButton  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/imageButton"  
 android:src="@mipmap/ic\_launcher"  
 android:layout\_centerVertical="true"  
 android:layout\_centerHorizontal="true"** />  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/button2"  
 android:text="Start Services"  
 android:onClick="startService"  
 android:layout\_below="@+id/imageButton"  
 android:layout\_centerHorizontal="true"** />  
  
 <**Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Stop Services"  
 android:id="@+id/button"  
 android:onClick="stopService"  
 android:layout\_below="@+id/button2"  
 android:layout\_alignLeft="@+id/button2"  
 android:layout\_alignStart="@+id/button2"  
 android:layout\_alignRight="@+id/button2"  
 android:layout\_alignEnd="@+id/button2"** />  
  
</**RelativeLayout**>

AndroidManifest.xml

*<?***xml version="1.0" encoding="utf-8"***?>*<**manifest xmlns:android="http://schemas.android.com/apk/res/android"  
 package=" "**>  
  
 <**application  
 android:allowBackup="true"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:supportsRtl="true"  
 android:theme="@style/AppTheme"**>  
 <**activity android:name="com.example.shajan\_lp.myapplication.MainActivity"**>  
 <**intent-filter**>  
 <**action android:name="android.intent.action.MAIN"** />  
  
 <**category android:name="android.intent.category.LAUNCHER"** />  
 </**intent-filter**>  
 </**activity**>  
  
 <**service  
 android:name="com.example.shajan\_lp.myapplication.MyService"  
 android:enabled="true"  
 android:exported="true"**></**service**>  
 </**application**>  
  
</**manifest**>