

Prac 2:

Activity_main.xml :

```
<LinearLayout
    android:layout_width="409dp"
    android:layout_height="354dp"
    android:orientation="vertical"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    tools:layout_editor_absoluteY="2dp">

    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@color/white"
        android:text="@string/Heading"
        android:textSize = "20sp"
    />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@color/teal_200"
        android:text="@string/Description"
        android:textSize = "20sp"
    />

    <TextView
        android:id="@+id/textView5"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@color/teal_700"
        android:text=" Praveen"
        android:textSize = "24sp"
    />

    <TextView
        android:id="@+id/textView6"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:background="@color/purple"
        android:text=" Siddhesh"
        android:textSize = "24sp"
    />

    <ImageView
        android:id = "@+id/imageView"
        android:layout_width = "match_parent"
        android:layout_height = "wrap_content"
        app:srcCompat = "@drawable/img"
    />

</LinearLayout>
```

Color :

```
<color name="purple">#800080</color>
```

String :

```
<string name="app_name">TYBScIT</string>
<string name="Heading">Advanced Mobile Programming</string>
<string name="Description">
    Android is a mobile operating system developed by Google.
    It is based on a modified version of the Linux
    kernel and other open source software, and is
    designed primarily for touch screen mobile devices
    such as smart phones and tablets
</string>
```

Themes :

```
<!-- Customize your theme here. -->
<item name="android:background">#FF0000</item>
<item name="android:textColor">#0000FF</item>
```

Images :

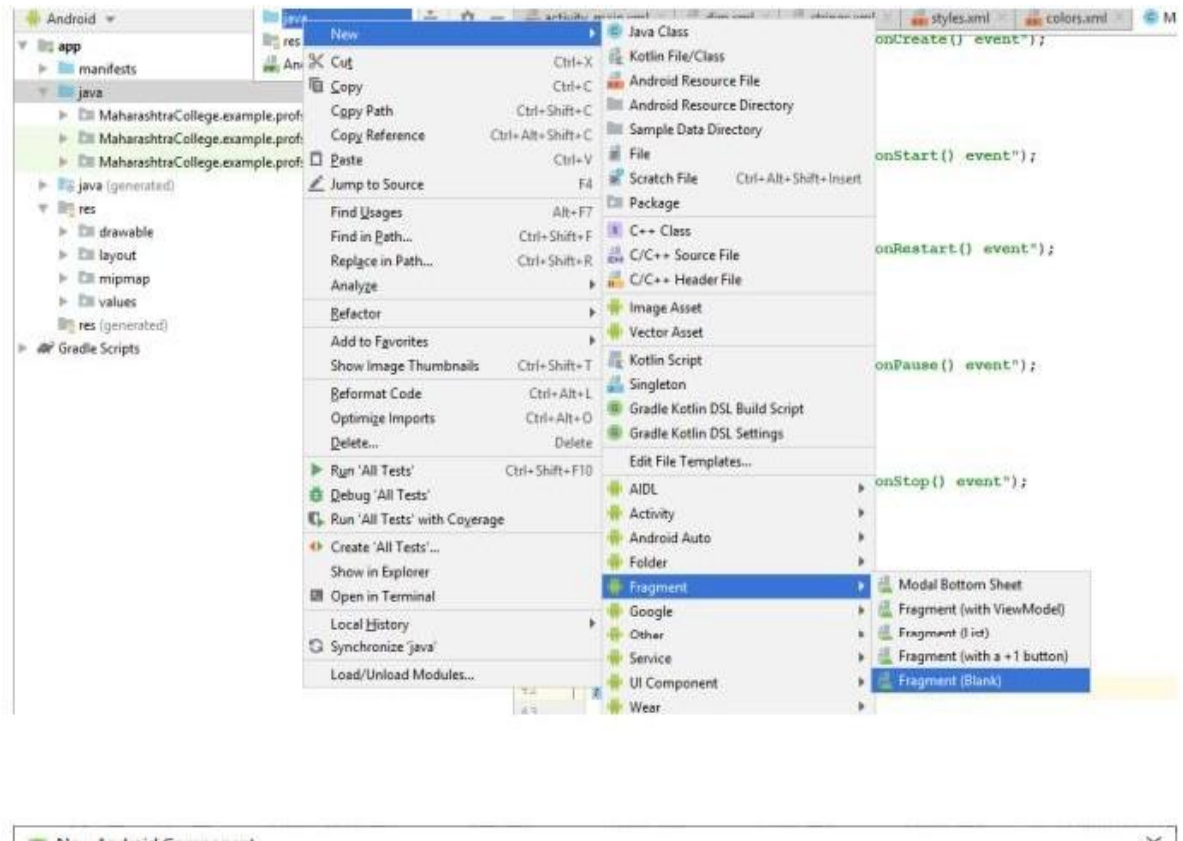
First right click in drawable and paste the image then add image in activity_main.xml

Practicle 3:

a)

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.util.Log;
public class MainActivity extends AppCompatActivity {
    String tag= "Android Lifecycle Demonstration";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(tag,"In the onCreate() event");
    }
    public void onStart()
    {
        super.onStart();
        Log.d(tag,"In the onStart() event");
    }
    public void onRestart()
    { super.onRestart();
        Log.d(tag,"In the onRestart() event");
    }
    public void onPause()
    {
        super.onPause();
        Log.d(tag,"In the onPause() event");
    }
    public void onStop()
    {
        super.onStop();
        Log.d(tag,"In the onStop() event");
    }
    public void onDestroy()
    {
        super.onDestroy();
        Log.d(tag,"In the onDestroy() event");
    }
}
```

b)



Give Fragement file name as : LifeCycleofFragement

```
import android.content.Context;
import android.net.Uri;
import android.os.Bundle;
import androidx.fragment.app.Fragment;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.util.Log;

public class LifeCycleofFragement extends Fragment {
    String tag = "Life Cycle of Fragement";

    private static final String ARG_PARAM1 = "param1";
    private static final String ARG_PARAM2 = "param2";

    private String mParam1;
    private String mParam2;
    private OnFragmentInteractionListener mListener;

    public LifeCycleofFragement() {
        // Required empty public constructor
    }

    public static LifeCycleofFragement newInstance(String param1, String param2) {
        LifeCycleofFragement fragment = new LifeCycleofFragement();
        Bundle args = new Bundle();
        args.putString(ARG_PARAM1, param1);
        args.putString(ARG_PARAM2, param2);
        fragment.setArguments(args);
        return fragment;
    }

    @Override
```

```

public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    if (getArguments() != null) {
        mParam1 = getArguments().getString(ARG_PARAM1);
        mParam2 = getArguments().getString(ARG_PARAM2);
    }
}

@Override
public View onCreateView(LayoutInflater inflater, ViewGroup container,
    Bundle savedInstanceState) {
    // Inflate the layout for this fragment
    return inflater.inflate(R.layout.fragment_life_cycleof, container, false);
}

public void onPressed(Uri uri) {
    if (mListener != null) {
        mListener.onFragmentInteraction(uri);
    }
}

@Override
public void onAttach(Context context) {
    super.onAttach(context);
    if (context instanceof OnFragmentInteractionListener) {
        mListener = (OnFragmentInteractionListener) context;
    } else {
        throw new RuntimeException(context.toString()
            + " must implement OnFragmentInteractionListener");
    }
}

@Override
public void onDetach() {
    super.onDetach();
    mListener = null;
}

@Override
public void onStart() {
    super.onStart();
    Log.d(tag, "In the onStart() event");
}

@Override
public void onPause() {
    super.onPause();
    Log.d(tag, "In the onPause() event");
}

@Override
public void onStop() {
    super.onStop();
    Log.d(tag, "In the onStop() event");
}

@Override
public void onDestroy() {
    super.onDestroy();
    Log.d(tag, "In the onDestroy() event");
}

public interface OnFragmentInteractionListener {
    void onFragmentInteraction(Uri uri);
}
}

```

Practicle 4:

A) Linear layout

```
<?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:layout_height="match_parent"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/editText"
        android:layout_width="wrap_content"
        android:layout_height="86dp"
        android:layout_weight="1"
        android:ems="10"
        android:hint="Enter The Text"
        android:inputType="textPersonName"
        android:text="Type Here"
        android:textColor="#FFEB3B" />
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="Button" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView" />
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView" />
    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:text="TextView" />
</LinearLayout>
```

Themes.xml

```
<item name="android:background">#000000</item>
<item name="android:textColor">#FFFFAA</item>
```

B) Relative layout :

```
C) <?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"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter Text Here" />
    <Spinner
        android:id="@+id/dates"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/name"
        android:layout_alignParentLeft="true"
        android:layout_toLeftOf="@+id/times" />
    <Spinner
        android:id="@id/times"
        android:layout_width="96dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/name"
        android:layout_alignParentRight="true" />
    <Button
        android:layout_width="96dp"
        android:layout_height="wrap_content"
        android:layout_below="@id/times"
        android:layout_alignParentRight="true"
        android:text="Click Here" />
</RelativeLayout>
```

c) Table Layout :

```
<?xml version="1.0" encoding="utf-8"?>
<TableLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:stretchColumns="1">
    <TableRow>
        <TextView
            android:layout_width="225dp"
            android:layout_height="56dp"
            android:padding="3dip"
            android:text="Row1, Col1" />
        <TextView
            android:layout_height="match_parent"
            android:gravity="right"
            android:padding="3dip"
            android:text="Row1, Col2" />
    </TableRow>
    <TableRow>
        <TextView
            android:layout_width="242dp"
            android:layout_height="64dp"
            android:padding="3dip"
            android:text="Row2, Col1" />
        <TextView
            android:layout_height="match_parent"
            android:gravity="right"
            android:padding="3dip"
            android:text="Row2, Col2" />
    </TableRow>
</TableLayout>
```


Practicle 5

A) AppBar :

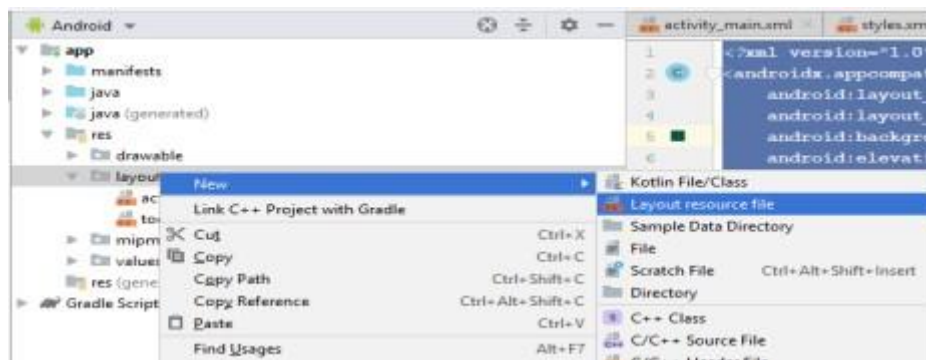
Theme.xml

The default line is

```
<style name="AppTheme" parent="Theme.AppCompat.Light.DarkActionBar">
```

Change to

```
<style name="AppTheme" parent="Theme.AppCompat.Light.NoActionBar">
```



File Name : toolbar

(then upload following code)

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.appcompat.widget.Toolbar
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:background="@color/white"
    android:elevation="4dp"
    >
</androidx.appcompat.widget.Toolbar>
```

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=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!" />
    <include
        android:id="@+id/toolbar"
        layout="@layout/toolbar"
        />
</RelativeLayout>
```

MainActivity.java :

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import androidx.appcompat.widget.Toolbar;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Toolbar tbar=findViewById(R.id.toolbar);
        setSupportActionBar(tbar);
    }
}
```

B) Calculator :

Main_activity :

```
<?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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="horizontal"
    android:stretchColumns="1">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">
        <EditText
            android:id="@+id/et1"
            android:layout_width="match_parent"
            android:layout_height="70dp"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="Input1" />
        <EditText
            android:id="@+id/et2"
            android:layout_width="match_parent"
            android:layout_height="64dp"
            android:ems="10"
            android:inputType="textPersonName"
            android:text="Input2" />
        <Button
            android:id="@+id/btnAdd"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Addition" />
        <Button
            android:id="@+id/btnSub"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Subtraction" />
        <Button
            android:id="@+id/btnMult"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Multiplication" />
        <Button
            android:id="@+id/btnDiv"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Division" />
        <Button
```

```

android:id="@+id/btnClear"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Clear" />
<TextView
android:id="@+id/tv1"
android:layout_width="match_parent"
android:layout_height="63dp"
android:text="Output"
android:textColor="@android:color/background_dark"
android:textSize="18sp"
android:textStyle="bold"
app:fontFamily="casual" />
</LinearLayout>
</LinearLayout>

```

Main.java :

```

package com.example.prac_5_calculator;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.*;
import static android.view.View.*;
public class MainActivity extends AppCompatActivity {
    EditText t1,t2;
    Button b1,b2,b3,b4,b5;
    TextView tv1;
    int n1=0,n2=0;
    String s1,s2;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        t1 = (EditText) findViewById(R.id.et1);
        t2 = (EditText) findViewById(R.id.et2);
        b1 = (Button) findViewById(R.id.btnAdd);
        b2 = (Button) findViewById(R.id.btnSub);
        b3 = (Button) findViewById(R.id.btnMult);
        b4 = (Button) findViewById(R.id.btnDiv);
        b5 = (Button) findViewById(R.id.btnClear);
    }
}

```

```

tv1 = (TextView) findViewById(R.id.tv1);
b1.setOnClickListener(new OnClickListener() {
    @Override
    public void onClick(View v) {
        try {
            String s1 = t1.getText().toString();
            String s2 = t2.getText().toString();
            n1 = Integer.parseInt(s1);
            n2 = Integer.parseInt(s2);
            int sum = n1 + n2;
            tv1.setText("Addition =" + sum);
        }
        catch (NumberFormatException e)
        {
        }
    }
});
b2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        try {
            String s1 = t1.getText().toString();
            String s2 = t2.getText().toString();
            n1 = Integer.parseInt(s1);
            n2 = Integer.parseInt(s2);
            int sub = n1 - n2;
            tv1.setText("Subtraction =" + sub);
        }
        catch (NumberFormatException e)
        {
        }
    }
});
b3.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        try {
            String s1 = t1.getText().toString();
            String s2 = t2.getText().toString();
            n1 = Integer.parseInt(s1);
            n2 = Integer.parseInt(s2);
            int m = n1 * n2;
            tv1.setText("Multiplication =" + m);
        }
        catch (NumberFormatException e)
        {
        }
    }
});
b4.setOnClickListener(new View.OnClickListener() {
    @Override

```

```

public void onClick(View v) {
    try {
        String s1 = t1.getText().toString();
        String s2 = t2.getText().toString();
        n1 = Integer.parseInt(s1);
        n2 = Integer.parseInt(s2);
        int d = n1 / n2;
        tv1.setText("Division =" + d);
    }
    catch (NumberFormatException e)
    {
    }
    }
    });
    b5.setOnClickListener(new OnClickListener() {
        @Override
        public void onClick(View v) {
            t1.setText("");
            t2.setText("");
            tv1.setText("");
        }
    });
}
}

```

Prac 6:

a) Programming menus and dialog

res(Right-click on res and select) -> New -> Android Resource File -> Filename(menus) and Resource Type Menu •
Now go to, menus.xml file and make the following changes to code file,

menus.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    <item android:id="@+id/newb" android:title="File" />
    <item android:id="@+id/search" android:title="Open" />
    <item android:id="@+id/save" android:title="Save"/>
    <item android:id="@+id/Share" android:title="Save As" />
    <item android:id="@+id/delete" android:title="Delete" />
    <item android:id="@+id/Exit" android:title="Close" />
</menu>
```

.java

```
package com.example.prac_6;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    public boolean onCreateOptionsMenu(Menu menu)
    {
        MenuInflater mi=getMenuInflater();
        mi.inflate(R.menu.menus,menu);
        return true;
    }
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public boolean onOptionsItemSelected(MenuItem item)
    {
        switch (item.getItemId())
        {
            case R.id.newb:
                Toast.makeText(this,"File Selected",Toast.LENGTH_SHORT).show();
                return true;
            case R.id.Share:
                Toast.makeText(this,"Open Selected",Toast.LENGTH_SHORT).show();
                return true;
            case R.id.delete:
                Toast.makeText(this,"Save Selected",Toast.LENGTH_SHORT).show();
                return true;
            case R.id.save:
                Toast.makeText(this,"Save As Selected",Toast.LENGTH_SHORT).show();
        }
    }
}
```

```
        return true;
    case R.id.search:
        Toast.makeText(this, "Delete Selected", Toast.LENGTH_SHORT).show();
        return true;
    case R.id.Exit: Toast.makeText(this, "Exit
Selected", Toast.LENGTH_SHORT).show();
        return true;
    default:
        Toast.makeText(this, "Default", Toast.LENGTH_SHORT).show();
        return super.onOptionsItemSelected(item);
    }
}
```


Prac 6:

b) Creation of Dialog :

mainactivity.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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:stretchColumns="1">
    <Button android:layout_height="wrap_content"
        android:layout_width="match_parent"
        android:id="@+id/button_dialog"
        android:onClick="onClickDialog"
        android:text="Click to display an alert dialog"/>
    <Button android:layout_height="wrap_content"
        android:layout_width="match_parent"
        android:id="@+id/button_progressdialog"
        android:onClick="onClickProgressDialog"
        android:text="Click to display a progressdialog"/>
    <Button android:layout_height="wrap_content"
        android:layout_width="match_parent"
        android:id="@+id/button_datedialog"
        android:onClick="onClickDateDialog"
        android:text="Click to display a DatePicker dialog"/>
    <Button android:layout_height="wrap_content"
        android:layout_width="match_parent"
        android:id="@+id/button_timedialog"
        android:onClick="onClickTimeDialog"
        android:text="Click to display a TImePicker dialog"/>
    <TextView
        android:id="@+id/textView_date"
        android:layout_width="398dp"
        android:layout_height="wrap_content"
        android:text="TextView1"
        android:textSize="50dp" />
    <TextView
        android:id="@+id/textView_time"
        android:layout_width="400dp"
        android:layout_height="wrap_content"
        android:text="TextView2"
        android:textSize="50dp" />
</LinearLayout>
```

.java

```
package com.example.prac6b;

import androidx.appcompat.app.AppCompatActivity;
import android.app.AlertDialog;
import android.os.Bundle;

import android.content.DialogInterface;
import android.view.View;

import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    CharSequence[] items={"Android","Security","Cloud"};
    boolean[] itemsChecked=new boolean[items.length];
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void onClickDialog(View v)
    {
        AlertDialog.Builder builder = new AlertDialog.Builder(this);
        builder.setTitle("This is a dialog with a simple Text");
        builder.setPositiveButton("OK", new DialogInterface.OnClickListener() {
            @Override public void onClick(DialogInterface dialog, int id)
            {
                Toast.makeText(getApplicationContext(), "OK Clicked",
Toast.LENGTH_SHORT).show();
            } });
        builder.setNegativeButton("Cancel", new DialogInterface.OnClickListener()
        {
            @Override public void onClick(DialogInterface dialog, int id)
            {
                Toast.makeText(getApplicationContext(), "Cancel Clicked",
Toast.LENGTH_SHORT).show();
            } });
        builder.setMultiChoiceItems(items, itemsChecked, new
            DialogInterface.OnMultiChoiceClickListener()
            {
                @Override public void onClick(DialogInterface dialog, int id,
boolean isChecked)
                {
                    Toast.makeText(getApplicationContext(), items[id] + (isChecked ?
"checked!" : "unchecked!"),
                        Toast.LENGTH_SHORT).show();
                } });
        AlertDialog dialog = builder.create(); builder.show();
    }
}
```

Prac 8 :

Activity main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/a
    ndroid"
    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=".MainActivity">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">
        <EditText
            android:hint="Type URL Here"
            android:id="@+id/website"
            android:layout_width="fill_parent"
            android:layout_height="75dp"
            android:ems="5"></EditText>
        <Button
            android:id="@+id/runWebsite"
            android:layout_width="fill_pare
            nt "
            android:layout_height="45dp"
            android:text="Run WebSite on Browser" />
    </LinearLayout>
</RelativeLayout>
```

Main.java :

```
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.graphics.Color;
import android.os.Bundle;
import android.app.Activity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.Menu;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button runWebsite = (Button) findViewById(R.id.runWebsite);
        runWebsite.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
                EditText website = (EditText) findViewById(R.id.website);
                String strURL = website.getText().toString();
                if (strURL.indexOf("http://www") < 0) {
                    strURL = "http://www." + strURL;
                }
                Intent implicit = new Intent(Intent.ACTION_VIEW, Uri.parse(strURL));
                startActivity(implicit);
            }
        });
    }
}
```