# PRACTICAL 1

Aim: Create the simple "hello world" program

**Activity_Main.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.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=".MainActivity">

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

</androidx.constraintlayout.widget.ConstraintLayout>
```

**MainActivity.java**

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

## Output

# PRACTICAL 2

Aim: Android Resources: (Color, Theme, String, Drawable).

**Colors.xml**

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

<resources>

   <color name="purple_200">#FFBB86FC</color>

   <color name="purple_500">#FF6200EE</color>

   <color name="purple_700">#FF3700B3</color>

   <color name="teal_200">#FF03DAC5</color>

   <color name="teal_700">#FF018786</color>

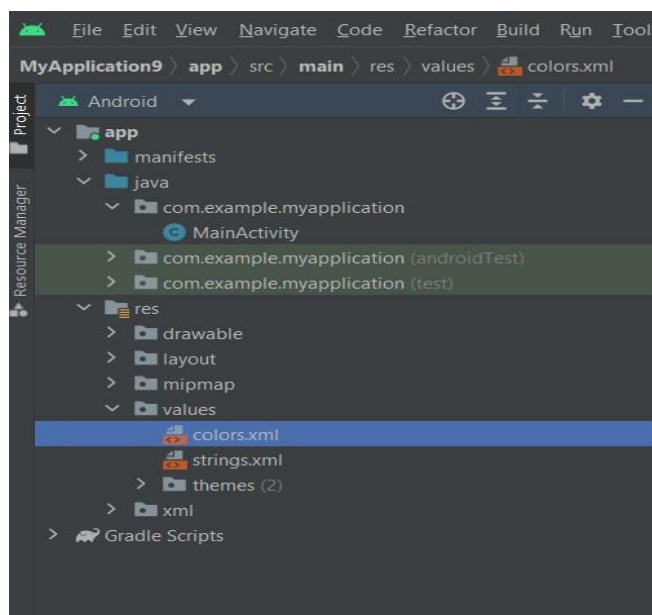   <color name="black">#FF000000</color>

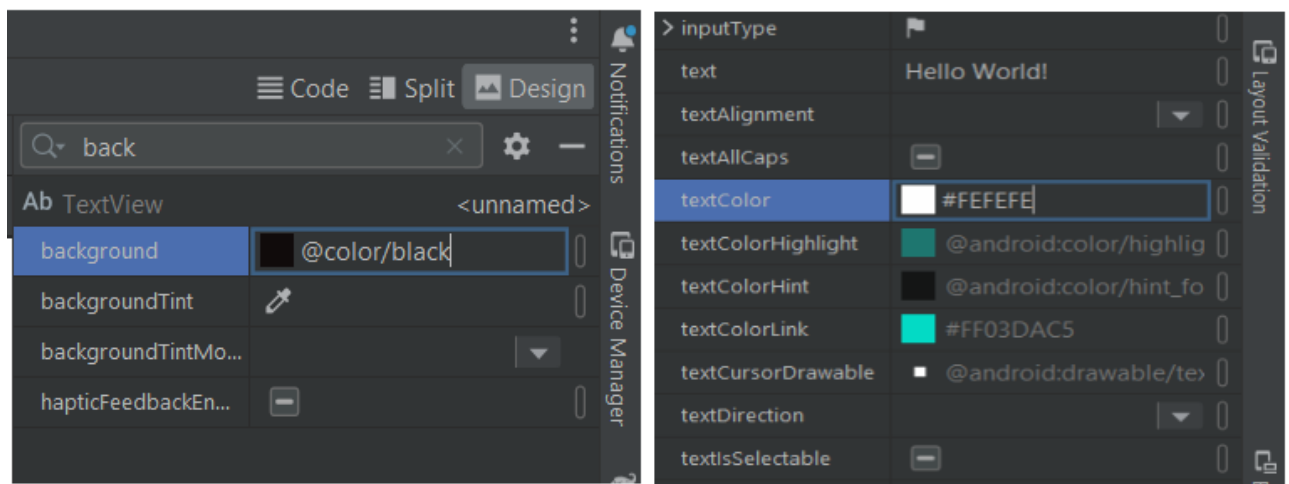   <color name="white">#FFFFFFFF</color>

</resources>

To apply color to Textview :

Using code

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:background="@color/black"
    android:text="Hello World!"
    android:textColor="#FEFEFE"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```
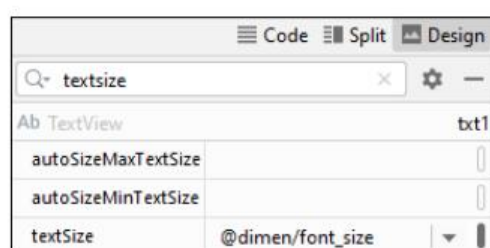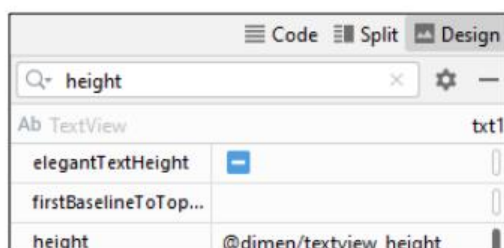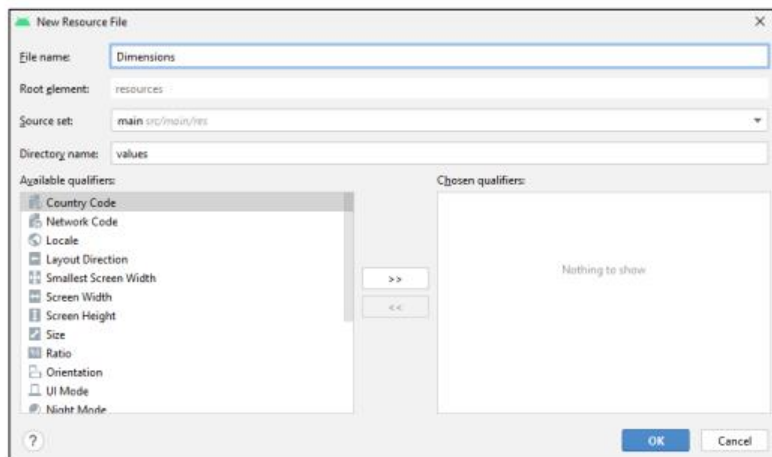
Or using attributes window



Note that we can apply only those colors which are stored in Colors.xml file

## Dimensions







**Theme:**

Style.xml

<resources>

<!-- Base application theme. -->

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

<!-- Customize your theme here. -->

<item name="colorPrimary">@color/colorPrimary</item>

<item name="colorPrimaryDark">@color/colorPrimaryDark</item>

<item name="colorAccent">@color/colorAccent</item>

</style>

</resources>
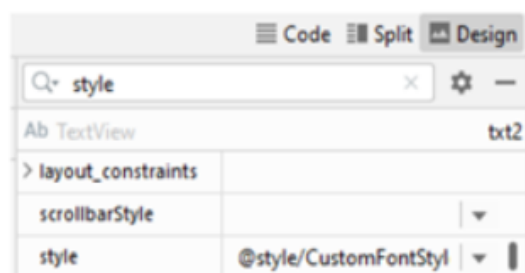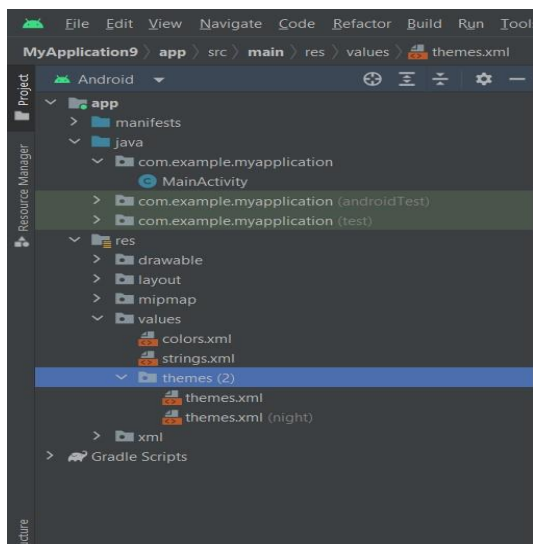


**Or add in Code Window**

```
<TextView
    android:id="@+id/txt2"
    style="@style/CustomFontStyle"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/college"
    android:textSize="@dimen/font_size"
```

TILAK COLLEGE

**String.xml:**

```
<resources>

    <string name="app_name">My Application</string>

    <string name="hello">Hello World!!!</string>

    <string name="college"> TILAK COLLEGE </string>

    <string name="contact">7058332304</string>

</resources>
```

Using code
```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/college"
    app:layout_constraintBottom_toBottomOf="parent"
    android:textColor="@color/deeppink"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

Output

TILAK COLLEGE

**Drawable:**

1. Right click on drawable folder
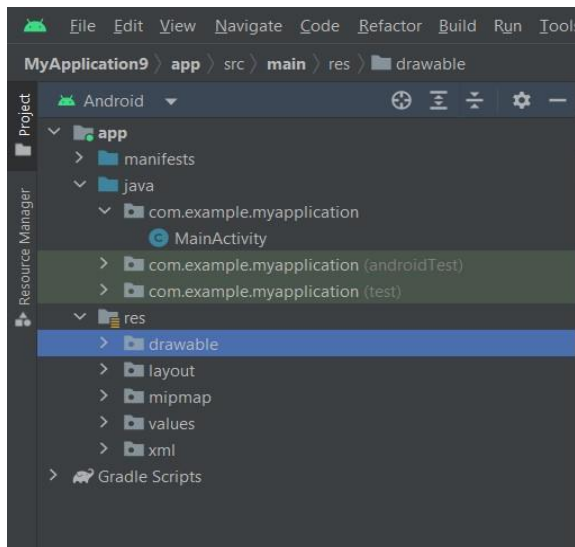


2. Copy the image if you want to create image drawable

3. Paste that image file inside the drawable folder

Now to apply image to background of activity -◊ select activity -◊ attributes -◊ background◊name of image
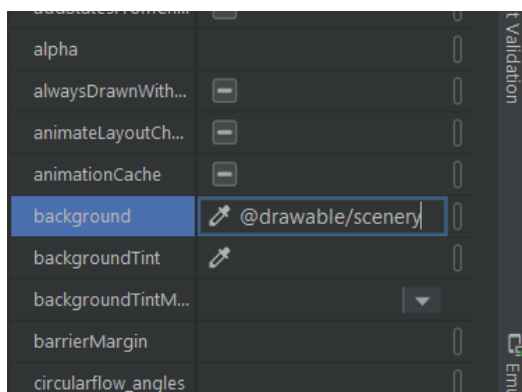
# PRACTICAL 3

Aim: Activity Lifecycle

**MainActivity.java**

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.util.Log;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {
    String tag = "LifeCycle";

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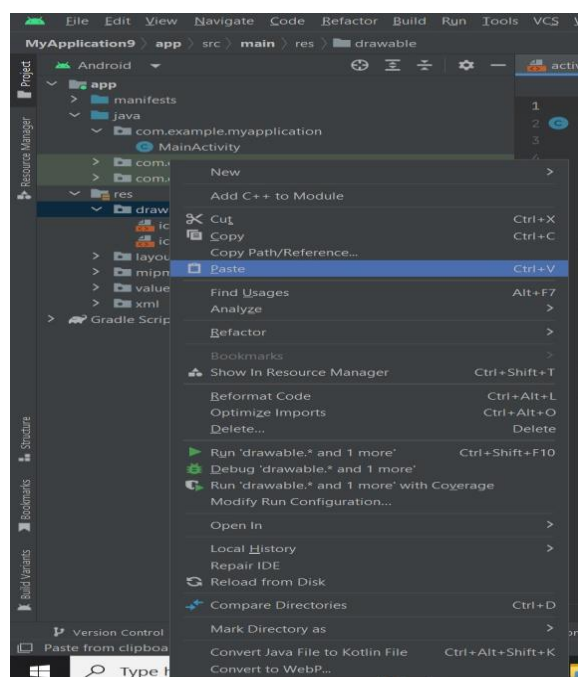
```java
public void onPause() {
    super.onPause();
    Log.d(tag, "In the onPause()event");
}

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

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

## Output



```
2023-01-10 11:31:02.726 13235-13272 libc                com.example.myapplication   A  Fatal signal 6 (SIGABRT), code -1 (SI_QUEUE) in tid 13272 (R
2023-01-10 11:31:03.596 13833-13833 DEBUG               pid-13833                    A  pid: 13235, tid: 13272, name: RenderThread  >>> com.example.
---------------------------- PROCESS ENDED (13235) for package com.example.myapplication ----------------------------
2023-01-10 12:00:36.507 19780-19780 studio.deploy       pid-19780                    E  Could not remove dir '/data/data/com.example.myapplication/c
---------------------------- PROCESS STARTED (19795) for package com.example.myapplication ----------------------------
2023-01-10 12:00:52.040 19795-19809 System              com.example.myapplication   W  A resource failed to call close.
2023-01-10 12:00:52.181 19795-19795 e.myapplicatio      com.example.myapplication   W  ClassLoaderContext classpath size mismatch. expected=0, foun
2023-01-10 12:00:52.368 19795-19795 e.myapplicatio      com.example.myapplication   W  Found duplicate classes, falling back to extracting from APK
2023-01-10 12:00:52.368 19795-19795 e.myapplicatio      com.example.myapplication   W  NOTE: This wastes RAM and hurts startup performance.
2023-01-10 12:00:52.368 19795-19795 e.myapplicatio      com.example.myapplication   W  Found duplicated class when checking oat files: 'Lcom/exampl
2023-01-10 12:00:53.035 19795-19795 NetworkSecurityConfig com.example.myapplication D  No Network Security Config specified, using platform default
2023-01-10 12:00:53.040 19795-19795 NetworkSecurityConfig com.example.myapplication D  No Network Security Config specified, using platform default
2023-01-10 12:00:53.537 19795-19830 libEGL              com.example.myapplication   D  loaded /vendor/lib/egl/libEGL_emulation.so
2023-01-10 12:00:53.670 19795-19830 libEGL              com.example.myapplication   D  loaded /vendor/lib/egl/libGLESv1_CM_emulation.so
2023-01-10 12:00:53.708 19795-19830 libEGL              com.example.myapplication   D  loaded /vendor/lib/egl/libGLESv2_emulation.so
2023-01-10 12:00:56.168 19795-19795 e.myapplicatio      com.example.myapplication   W  Verification of void androidx.appcompat.widget.ActionBarOver
2023-01-10 12:00:57.265 19795-19795 e.myapplicatio      com.example.myapplication   W  Accessing hidden method Landroid/view/View;->computeFitSyste
2023-01-10 12:00:57.269 19795-19795 e.myapplicatio      com.example.myapplication   W  Accessing hidden method Landroid/view/ViewGroup;->makeOption
2023-01-10 12:00:57.661 19795-19795 LifeCycle           com.example.myapplication   D  In the onCreate() event
```

```
2023-01-10 12:00:57.661 19795-19795 LifeCycle           com.example.myapplication   D  In the onCreate() event
2023-01-10 12:00:57.918 19795-19827 e.myapplicatio      com.example.myapplication   I  Waiting for a blocking GC ProfileSaver
2023-01-10 12:00:57.925 19795-19827 e.myapplicatio      com.example.myapplication   I  WaitForGcToComplete blocked ProfileSaver on RunEmptyChec
2023-01-10 12:00:57.989 19795-19795 LifeCycle           com.example.myapplication   D  In the onStart() event
2023-01-10 12:00:57.998 19795-19795 LifeCycle           com.example.myapplication   D  In the onResume() event
2023-01-10 12:00:58.543 19795-19828 HostConnection      com.example.myapplication   D  HostConnection::get() New Host Connection established 0x
2023-01-10 12:00:58.564 19795-19828 HostConnection      com.example.myapplication   D  HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDRO
2023-01-10 12:00:58.642 19795-19828 OpenGLRenderer      com.example.myapplication   W  Failed to choose config with EGL_SWAP_BEHAVIOR_PRESERVED
2023-01-10 12:00:58.679 19795-19828 EGL_emulation       com.example.myapplication   D  eglCreateContext: 0xf601eb60: maj 2 min 0 rcv 2
2023-01-10 12:00:58.835 19795-19828 EGL_emulation       com.example.myapplication   D  eglMakeCurrent: 0xf601eb60: ver 2 0 (tinfo 0xf6363bb0) (
2023-01-10 12:00:58.974 19795-19828 Gralloc4            com.example.myapplication   I  mapper 4.x is not supported
2023-01-10 12:00:58.991 19795-19828 HostConnection      com.example.myapplication   D  createUnique: call
2023-01-10 12:00:58.992 19795-19828 HostConnection      com.example.myapplication   D  HostConnection::get() New Host Connection established 0x
2023-01-10 12:00:59.009 19795-19828 goldfish-address-space com.example.myapplication D  allocate: Ask for block of size 0x100
2023-01-10 12:00:59.010 19795-19828 goldfish-address-space com.example.myapplication D  allocate: ioctl allocate returned offset 0x3f7ffe000 siz
2023-01-10 12:00:59.114 19795-19828 HostConnection      com.example.myapplication   D  HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDRO
2023-01-10 12:01:05.011 19795-19828 OpenGLRenderer      com.example.myapplication   I  Davey! duration=6498ms; Flags=1, IntendedVsync=577748292
```

```
2023-01-10 12:00:59.009 19795-19828 goldfish-address-space com.example.myapplication D  allocate: Ask for block of size 0x100
2023-01-10 12:00:59.010 19795-19828 goldfish-address-space com.example.myapplication D  allocate: ioctl allocate returned offset 0x3f7ffe000 size 0x
2023-01-10 12:00:59.114 19795-19828 HostConnection      com.example.myapplication   D  HostComposition ext ANDROID_EMU_CHECKSUM_HELPER_v1 ANDROID_E
2023-01-10 12:01:05.011 19795-19828 OpenGLRenderer      com.example.myapplication   I  Davey! duration=6498ms; Flags=1, IntendedVsync=5777482928844
2023-01-10 12:01:06.749 19795-19807 e.myapplicatio      com.example.myapplication   I  Background young concurrent copying GC freed 1135(130KB) All
2023-01-10 12:04:34.197 19795-19795 LifeCycle           com.example.myapplication   D  In the onPause() event
2023-01-10 12:04:35.427 19795-19795 LifeCycle           com.example.myapplication   D  In the onStop() event
2023-01-10 12:04:36.657 19795-19795 LifeCycle           com.example.myapplication   D  In the onRestart() event
2023-01-10 12:04:36.660 19795-19795 LifeCycle           com.example.myapplication   D  In the onStart() event
2023-01-10 12:04:36.666 19795-19795 LifeCycle           com.example.myapplication   D  In the onResume() event
```

# PRACTICAL 4

Aim: Create the login form using different layout

**Activity_Main.xml**

```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:id="@+id/textview"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:text="Login Example"
        android:textSize="35dp" />
    <EditText
        android:layout_width = "wrap_content"
        android:layout_height = "wrap_content"
        android:id = "@+id/editText"
        android:hint = "Enter Name"
        android:focusable = "true"
        android:textColorHighlight = "#ff7eff15"
        android:layout_marginTop = "46dp"
        android:layout_alignParentLeft = "true"
        android:layout_alignParentStart = "true"
        android:layout_alignParentRight = "true"
        android:layout_alignParentEnd = "true" />
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:inputType="textPassword"
        android:ems="10"
```

```
    android:id="@+id/editText2"
    android:layout_below="@+id/editText"
    android:layout_alignParentLeft="true"
    android:layout_alignParentStart="true"
    android:layout_alignRight="@+id/editText"
    android:layout_alignEnd="@+id/editText"
    android:hint="Password" />
<TextView
    android:id="@+id/textView2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_below="@+id/editText2"
    android:layout_alignParentStart="true"
    android:layout_alignParentLeft="true"
    android:text="Attempts Remaining"
    android:textSize="25dp" />
<TextView
    android:id="@+id/textView3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_alignTop="@+id/textView2"
    android:layout_alignBottom="@+id/textView2"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_toEndOf="@+id/textview"
    android:layout_toRightOf="@+id/textview"
    android:text="Text"
    android:textSize="25dp" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="login"
    android:id="@+id/button"
    android:layout_alignParentBottom="true"
    android:layout_toLeftOf="@+id/textview"
    android:layout_toStartOf="@+id/textview" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
        android:text="Cancel"
        android:id="@+id/button2"
        android:layout_alignParentBottom="true"
        android:layout_toRightOf="@+id/textview"
        android:layout_toEndOf="@+id/textview" />

</RelativeLayout>
```

**MainActivity.java**

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.graphics.Color;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    Button b1,b2;
    EditText ed1,ed2;
    TextView tx1;
    int counter = 3;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b1 = (Button)findViewById(R.id.button);
        ed1 = (EditText)findViewById(R.id.editText);
        ed2 = (EditText)findViewById(R.id.editText2);
        b2 = (Button)findViewById(R.id.button2);
        tx1 = (TextView)findViewById(R.id.textView3);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
```

```java
            if(ed1.getText().toString().equals("sana") &&
                ed2.getText().toString().equals("admin")) {
            Toast.makeText(getApplicationContext(),
                    "Login Successful...",Toast.LENGTH_SHORT).show();
            }else{
            Toast.makeText(getApplicationContext(), "Wrong
Credentials",Toast.LENGTH_SHORT).show();
                    tx1.setVisibility(View.VISIBLE);
                tx1.setBackgroundColor(Color.RED);
                counter--;
                tx1.setText(Integer.toString(counter));
                if (counter == 0) {
                    b1.setEnabled(false);
                }
            }
        }
    });
    b2.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            finish();
        }
    });
    }
}
```

**Output**
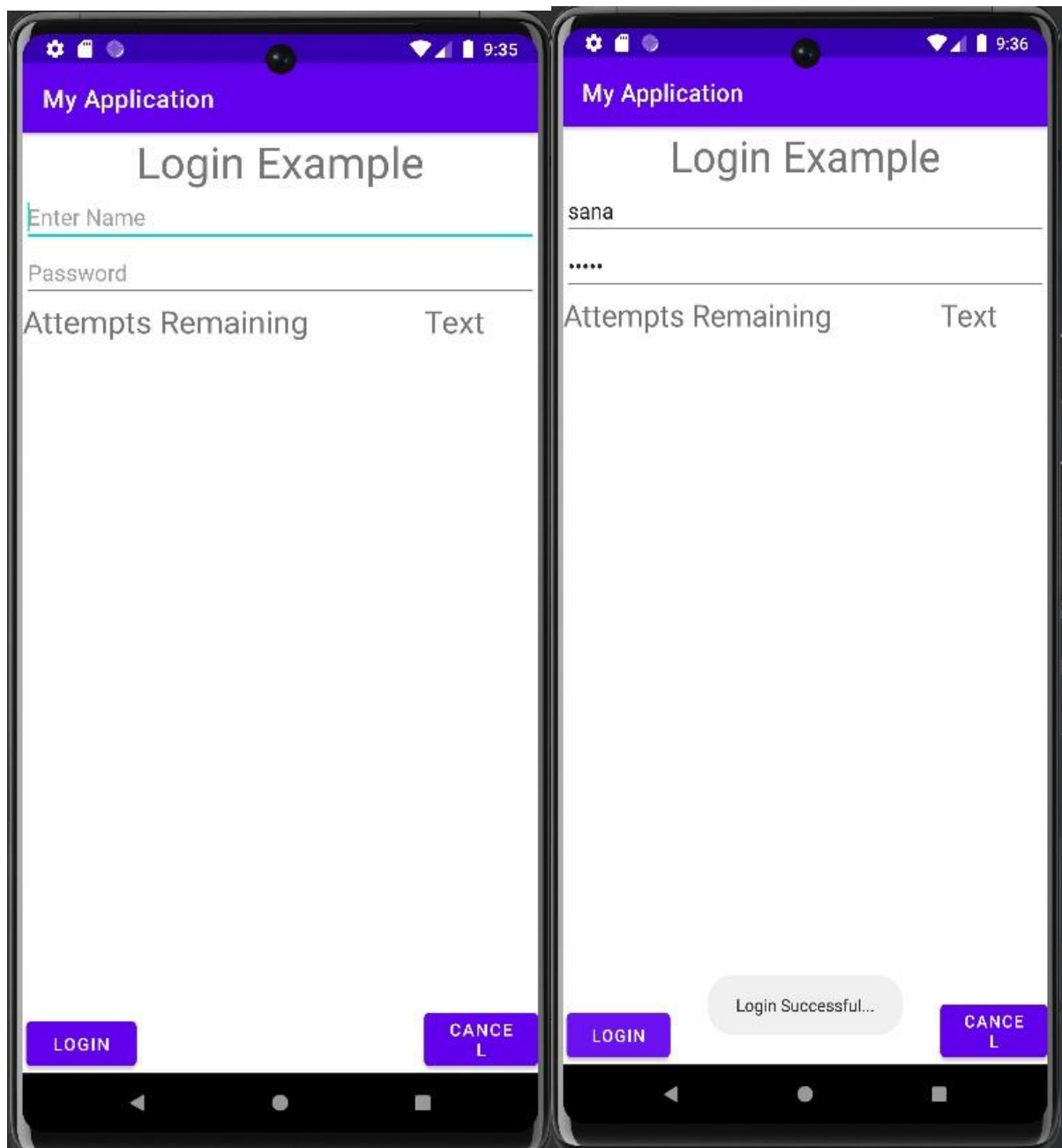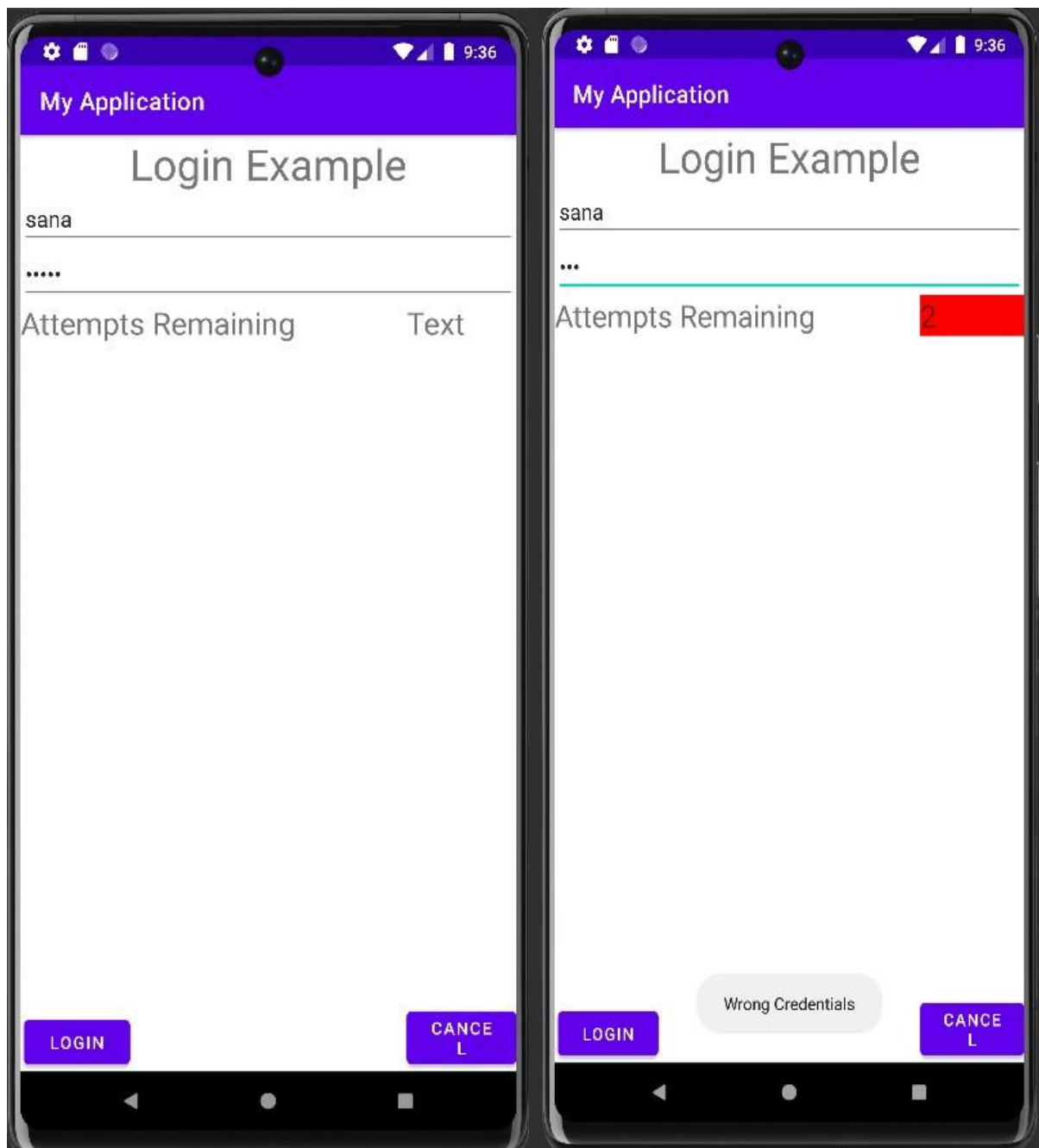
# PRACTICAL 5

Aim: Create a application for showing Menus

**Activity_Main.xml**

```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:id="@+id/mn"
        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" />
</RelativeLayout>
```

**MainActivity.java**

```java
package com.example.myapplication;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.widget.TextView;


public class MainActivity extends AppCompatActivity {
```

```java
    TextView mn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        mn=findViewById(R.id.mn);
    }
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater m=getMenuInflater();
        m.inflate(R.menu.menu, menu);
        return true;
    }
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()) {
            case R.id.fyit:
                mn.setText("FYIT");
                return true;
            case R.id.syit:
                mn.setText("SYIT");
                return true;
            case R.id.tyit:
                mn.setText("TYIT");
                return true;
        }
        return super.onOptionsItemSelected(item);
    }
}
```

**Menu.xml**

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/fyit"
        android:title="FYIT" />
    <item
        android:id="@+id/syit"
        android:title="SYIT" />
    <item
```

```
        android:id="@+id/tyit"
        android:title="TYIT" />
</menu>
```
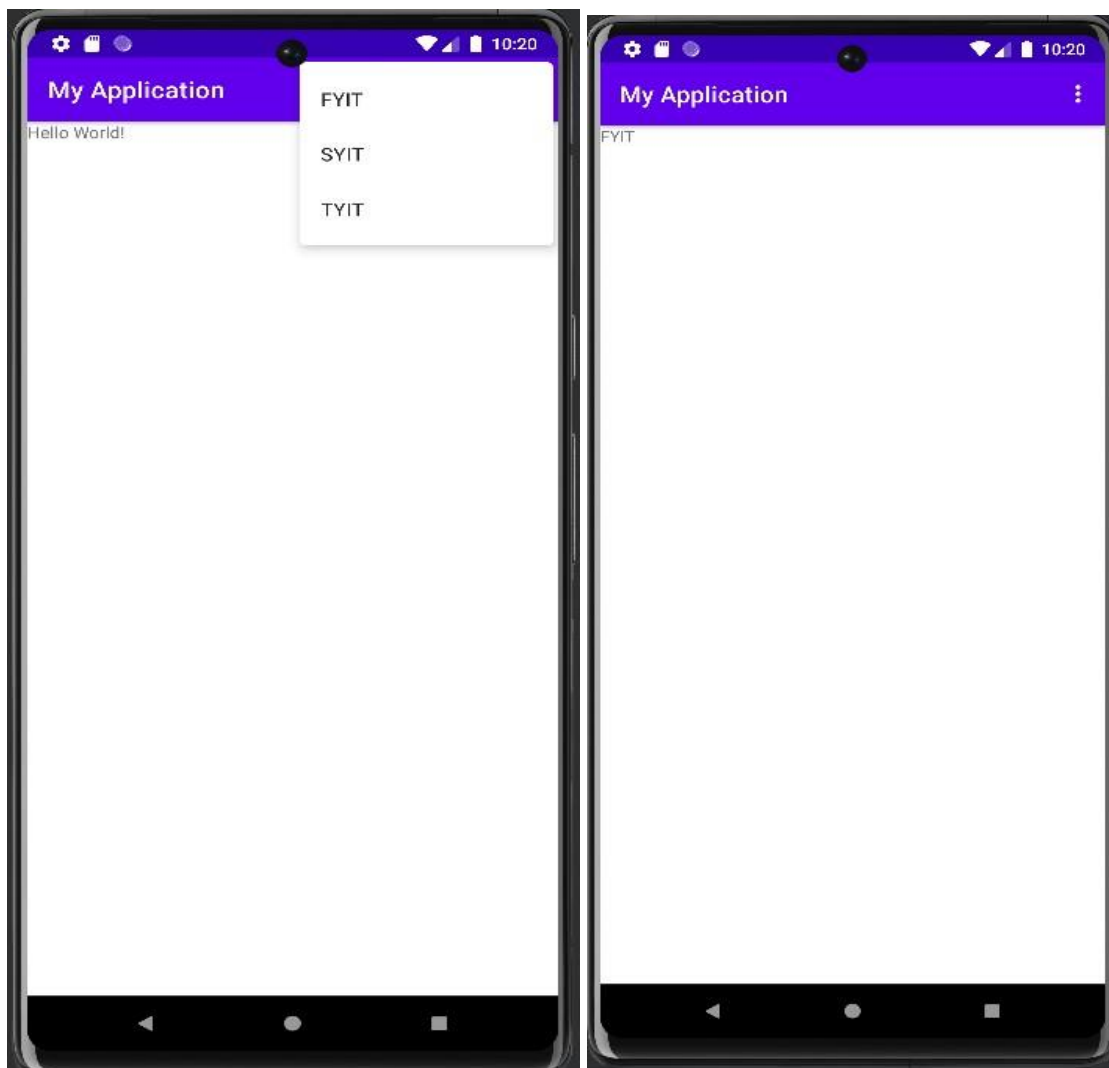
## Output

# PRACTICAL 6

Aim: Create an application for  time picker Dialog

**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="com.example.sonal.myapplication.MainActivity">

<TextView

 android:id="@+id/textView2"

 android:layout_width="wrap_content"

 android:layout_height="wrap_content"

 android:layout_alignParentTop="true"

 android:layout_centerHorizontal="true"

 android:text="@string/time_pick"

 android:textAppearance="?android:attr/textAppearanceMedium"/>

<Button

 android:id="@+id/set_button"

 android:layout_width="wrap_content"

 android:layout_height="wrap_content"

 android:layout_alignParentTop="true"

```
android:layout_centerHorizontal="true"

android:layout_marginBottom="180dp"

android:onClick="setTime"

android:text="@string/time_save"/>

<TimePicker

android:id="@+id/timePicker1"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_above="@id/set_button"

android:layout_centerHorizontal="true"

android:layout_marginBottom="24dp"/>

<TextView

android:id="@+id/textView3"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_alignLeft="@+id/timePicker1"

android:layout_alignTop="@+id/set_button"

android:layout_marginTop="40dp"

android:text="@string/time_current"

android:textAppearance="?android:attr/textAppearanceMedium"/>

<TextView

android:id="@+id/textView"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_below="@+id/textView3"
```

android:layout_centerHorizontal="true"

android:text="@string/time_selected"

android:textAppearance="?android:attr/textAppearanceMedium"/>

</android.support.constraint.ConstraintLayout>

**MainActivity.java**

```java
package com.example.sonal.myapplication;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import java.util.Calendar;

import java.lang.String;

import android.view.Menu;

import android.view.View;

import android.widget.TextView;

import android.widget.TimePicker;

public class MainActivity extends AppCompatActivity {

private TimePicker timePicker1;

 private TextView time;

 private Calendar calendar;

 private String format="";

 @Override

 protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

timePicker1=(TimePicker)findViewById(R.id.timePicker1);

time=(TextView)findViewById(R.id.textView);
```

```java
calendar=Calendar.getInstance();

int hour=calendar.get(Calendar.HOUR_OF_DAY);

int min=calendar.get(calendar.MINUTE);

shoeTime(hour,min);

}

public void setTime(View view)

{

int hour=timePicker1.getHour();

int min=timePicker1.getMinute();

shoeTime(hour, min);

}

public void shoeTime(int hour,int min)

{

if ((hour==0))

{

hour+=12;

format="AM";

}

else if (hour==12)

{

format="PM";

}

else if (hour>12)

{

hour=12;
```

```
format="PM";

}

else

{

format="AM";

}

time.setText(new
StringBuilder().append(hour).append(":").append(min).append("").append(format));

}

}
```

**String.xml**

```
<resources>

 <string name="app_name">My Application</string>

 <string name="action_settings">Settings</string>

 <string name="time_picker_example">Time Picker Example</string>

 <string name="time_pick">Pick the time and press save button</string>

 <string name="time_save">Save</string>

 <string name="time_selected"></string>

 <string name="time_current">The Time is:</string>

</resources>
```
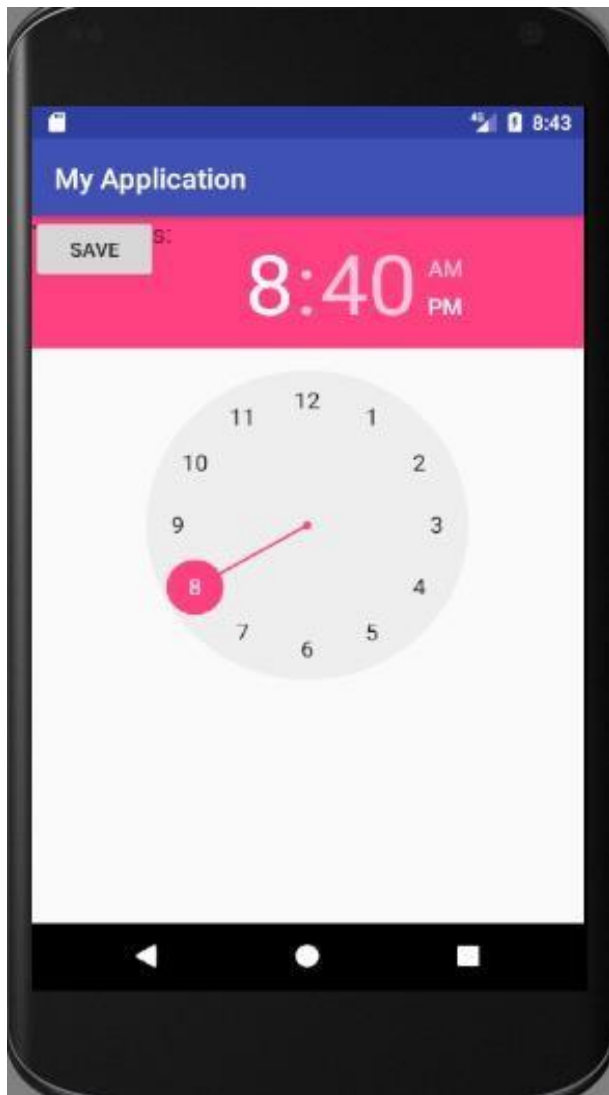
**Output**



**MainActivity.java**

```
package com.example.sonal.myapplication;

import android.os.Build;

import android.support.annotation.RequiresApi;
```

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

import android.os.Bundle;

import android.view.View;

import android.widget.TimePicker;

import android.widget.Button;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

private TimePicker time_picker;

 private Button button_show_Time;

 @Override

 protected void onCreate(Bundle savedInstanceState) {

 super.onCreate(savedInstanceState);

 setContentView(R.layout.activity_main);

 showTime();

 }

 public void showTime()

 {

 time_picker=(TimePicker)findViewById(R.id.timePicker);

 button_show_Time=(Button)findViewById(R.id.button);

 button_show_Time.setOnClickListener(

 new View.OnClickListener()

 {

 @Override

 @RequiresApi(api = Build.VERSION_CODES.M)

 public void onClick(View v)
```

```
{
Toast.makeText(getBaseContext(),time_picker.getHour()+ ":"+ time_picker.getMinute(),
Toast.LENGTH_SHORT).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="com.example.sonal.myapplication.MainActivity">
<TimePicker
 android:id="@+id/timePicker"
 android:layout_width="wrap_content"
 android:layout_height="wrap_content"
 tools:layout_editor_absoluteX="0dp"
 tools:layout_editor_absoluteY="16dp" />
<Button
 android:id="@+id/button"
```

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:text="show Time"

tools:layout_editor_absoluteX="148dp"

tools:layout_editor_absoluteY="396dp" />

</android.support.constraint.ConstraintLayout>


Datepickerpackage com.example.sonal.myapplication;

import android.app.DatePickerDialog;

import android.app.Dialog;

import android.support.v7.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.DatePicker;

import android.widget.Toast;

import java.util.Calendar;

public class MainActivity extends AppCompatActivity {

 Button btn;

 int year_x,month_x,day_x;

 static final int DIALOG_ID=0;

 @Override

 protected void onCreate(Bundle savedInstanceState) {

 super.onCreate(savedInstanceState);

 setContentView(R.layout.activity_main);

```java
final Calendar cal=Calendar.getInstance();

year_x=cal.get(Calendar.YEAR);

month_x=cal.get(Calendar.MONTH);

day_x=cal.get(Calendar.DAY_OF_MONTH);

showDialogonButtonclick();

}

public void showDialogOnButtonClick() {

btn = (Button) findViewById(R.id.button);

btn.setOnClickListener(

new View.OnClickListener() {

@Override

public void onClick(View v) {

showDialog(DIALOG_ID);

}

}

);

}

protected Dialog OnCreateDialog(int id)

{

if (id==DIALOG_ID)

return new DatePickerDialog(this,dpickerListener,year_x,month_x,day_x);

return null;

}

private DatePickerDialog.OnDateSetListener dpickerListener

= new DatePickerDialog.OnDateSetListener()
```

```java
{
@Override

public void onDateSet(DatePicker view,int year,int monthOfYear,int dayOfMonth)

{
year_x=year;

month_x=monthOfYear+1;

day_x=dayOfMonth;

Toast.makeText(MainActivity.this,year_x+"/" +month_x+"/"+day_x,
Toast.LENGTH_LONG).show();

}

};

}
```

```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="com.example.sonal.myapplication.MainActivity">

<Button

 android:id="@+id/button"

 android:layout_width="wrap_content"

 android:layout_height="wrap_content"

 android:text="SHOW DATE PICKER DIALOG"
```

tools:layout_editor_absoluteX="147dp"

tools:layout_editor_absoluteY="123dp" />

</android.support.constraint.ConstraintLayout>

**Output**

# PRACTICAL 7

Aim: Create an Android application to pass the data (Program Intent passing)

**Activity_Main.xml**

```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">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:orientation="vertical">

        <TextView
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:gravity="center_horizontal"
            android:text="Input yourName"></TextView>
        <TableLayout
            android:id="@+id/tableLayout1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:stretchColumns="1">
            <TableRow
                android:id="@+id/tableRow1"
                android:layout_width="match_parent"
                android:layout_height="wrap_content">

                <TextView
                    android:id="@+id/textView1"
                    android:layout_width="match_parent"
```

```xml
            android:layout_height="wrap_content"
            android:text="FirstName"></TextView>

        <EditText
            android:id="@+id/etFName"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginLeft="5dp">
            <requestFocus></requestFocus>
        </EditText>
    </TableRow>
    <TableRow
        android:id="@+id/tableRow2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">
        <TextView
            android:id="@+id/textView2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="LastName"></TextView>
        <EditText
            android:id="@+id/etLName"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginLeft="5dp"></EditText>
            >
    </TableRow>
    </TableLayout>
    <Button
        android:id="@+id/btnSubmit"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:text="Submit"></Button>
    </LinearLayout>
</RelativeLayout >
```

**MainActivity.java**

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.QuickContactBadge;
import android.widget.TextView;
import android.widget.Toast;
import java.util.Random;


public class MainActivity extends AppCompatActivity {
    EditText etFName;
    EditText etLName;
    Button btnSubmit;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        etFName = (EditText) findViewById(R.id.etFName);
        etLName = (EditText) findViewById(R.id.etLName);
        btnSubmit = (Button) findViewById(R.id.btnSubmit);
        btnSubmit.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View v) {
                Intent intent = new
                        Intent(getApplicationContext(),MainActivity2.class);
                intent.putExtra("fname",
```

```java
            etFName.getText().toString());
        intent.putExtra("lname",
            etLName.getText().toString());
        startActivity(intent);
      }
    });
  }
}
```

**Activity_Main2.xml**

```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=".MainActivity2">

    <TextView
        android:id="@+id/tvView"
        android:layout_width="400dp"
        android:layout_height="85dp"
        android:layout_gravity="center_horizontal"
        android:layout_marginTop="20dp"
        android:text="Output"
        android:textColor="@android:color/holo_blue_dark"
        android:textSize="24sp"
        android:textStyle="bold">
    </TextView>

</RelativeLayout>
```

**MainActivity2.java**

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
```

```java
import android.os.Bundle;
import android.content.Intent;
import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {
    TextView tvView;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        tvView = (TextView) findViewById(R.id.tvView);
        Intent intent = getIntent();
        String fName = intent.getStringExtra("fname");
        String lName = intent.getStringExtra("lname");
        tvView.setText("Your name is: " + fName + " " + lName);
    }
}
```

## Output
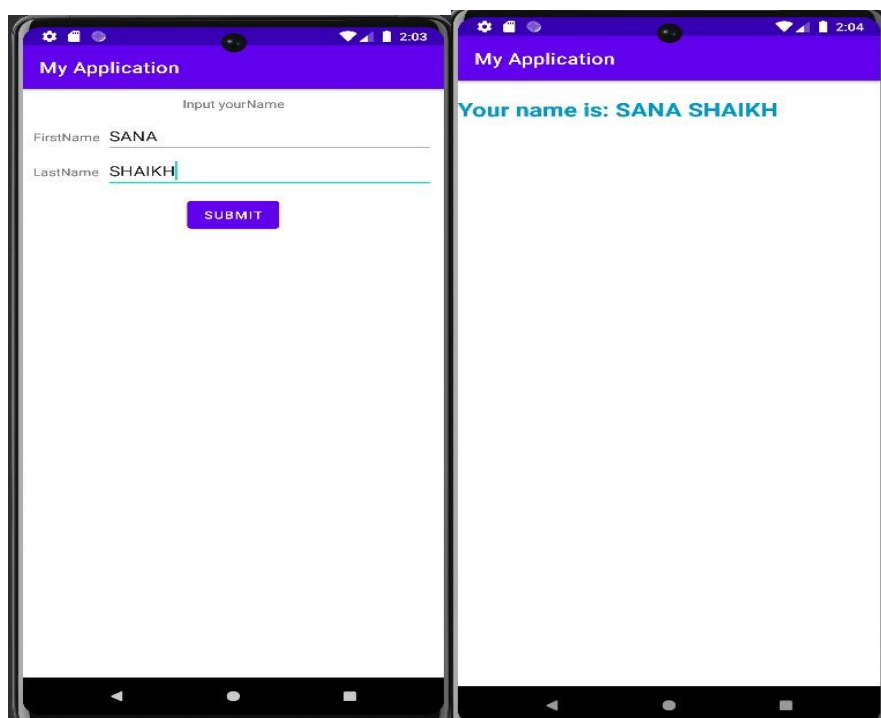
# PRACTICAL 8

Aim: Create the media API in android to play an audio file.

**Activity_main.xml**

```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">

    <Button
    android:id="@+id/btnPlay"
    android:layout_width="197dp"
    android:layout_height="75dp"
    android:layout_alignParentEnd="true"
    android:layout_alignParentRight="true"
    android:layout_alignParentBottom="true"
    android:layout_marginEnd="87dp"
    android:layout_marginRight="87dp"
    android:layout_marginBottom="468dp"
    android:text="Play Audio"
    android:onClick="playAudio"
    />
    <Button
        android:id="@+id/btnStop"
        android:layout_width="208dp"
        android:layout_height="70dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="89dp"
        android:layout_marginRight="89dp"
        android:layout_marginBottom="356dp"
        android:text="Stop Audio"
        android:onClick="onPause"/>
```

```xml
    <ImageView
        android:id="@+id/imageView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
    <ImageButton
        android:id="@+id/imageButton5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentEnd="true"
        android:layout_alignParentRight="true"
        android:layout_alignParentBottom="true"
        android:layout_marginEnd="66dp"
        android:layout_marginRight="66dp"
        android:layout_marginBottom="182dp"
        android:visibility="invisible"
        app:srcCompat="@drawable/song"
        tools:visibility="invisible" />
</RelativeLayout>
```

## MainActivity.java

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.media.MediaPlayer;
import android.os.Bundle;
import android.view.View;
import android.widget.ImageButton;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

    MediaPlayer mediaPlayer;
    ImageButton ibtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
```

```java
        mediaPlayer = MediaPlayer.create(this,R.raw.song);
    }
    public void playAudio(View v)
    {
        ibtn = findViewById(R.id.imageButton5);
        ibtn.setVisibility(View.VISIBLE);
        mediaPlayer.start();
        Toast.makeText(this, "Music is playing, Connect Ear Phone to Listen the Ringtone",
                Toast.LENGTH_SHORT).show();
    }
    public void onPause(View v) {
        super.onPause();
        mediaPlayer.release();
        ibtn.setVisibility(View.INVISIBLE);
    }
}
```

**Output**
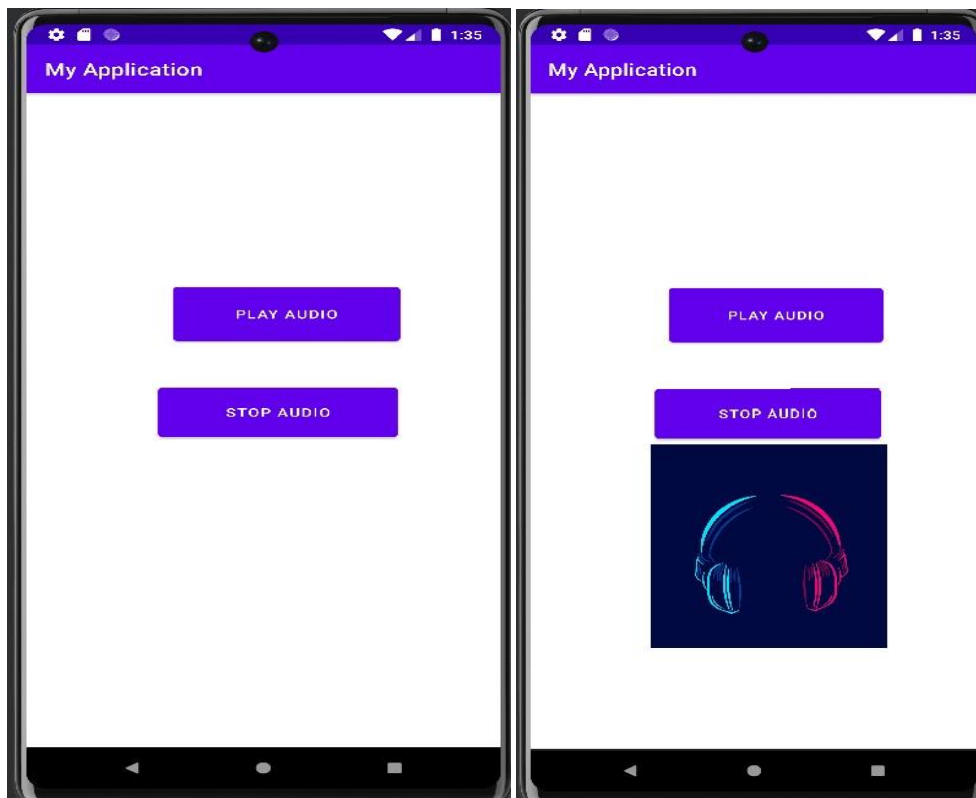
# PRACTICAL 9

Aim: Create an android Application that open the website www.google.com in the browser on the click of a button (program on internet)

**Activity_Main.xml**

```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">

    <EditText
        android:id="@+id/editText1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_alignParentTop="true"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="44dp"
        android:ems="10"/>
    <Button
        android:id="@+id/button1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/editText1"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="54dp"
        android:text="Visit"/>
</RelativeLayout>
```

**MainActivity.java**

```java
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
```

```java
import android.net.Uri;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final EditText editText1=(EditText)findViewById(R.id.editText1);
        Button button1=(Button)findViewById(R.id.button1);
        button1.setOnClickListener(new View.OnClickListener(){
            @Override
            public  void onClick(View arg0){
                String url=editText1.getText().toString();
                Intent intent=new Intent(Intent.ACTION_VIEW, Uri.parse(url));
                startActivity(intent);
            }
        });
    }
}
```

**Output**
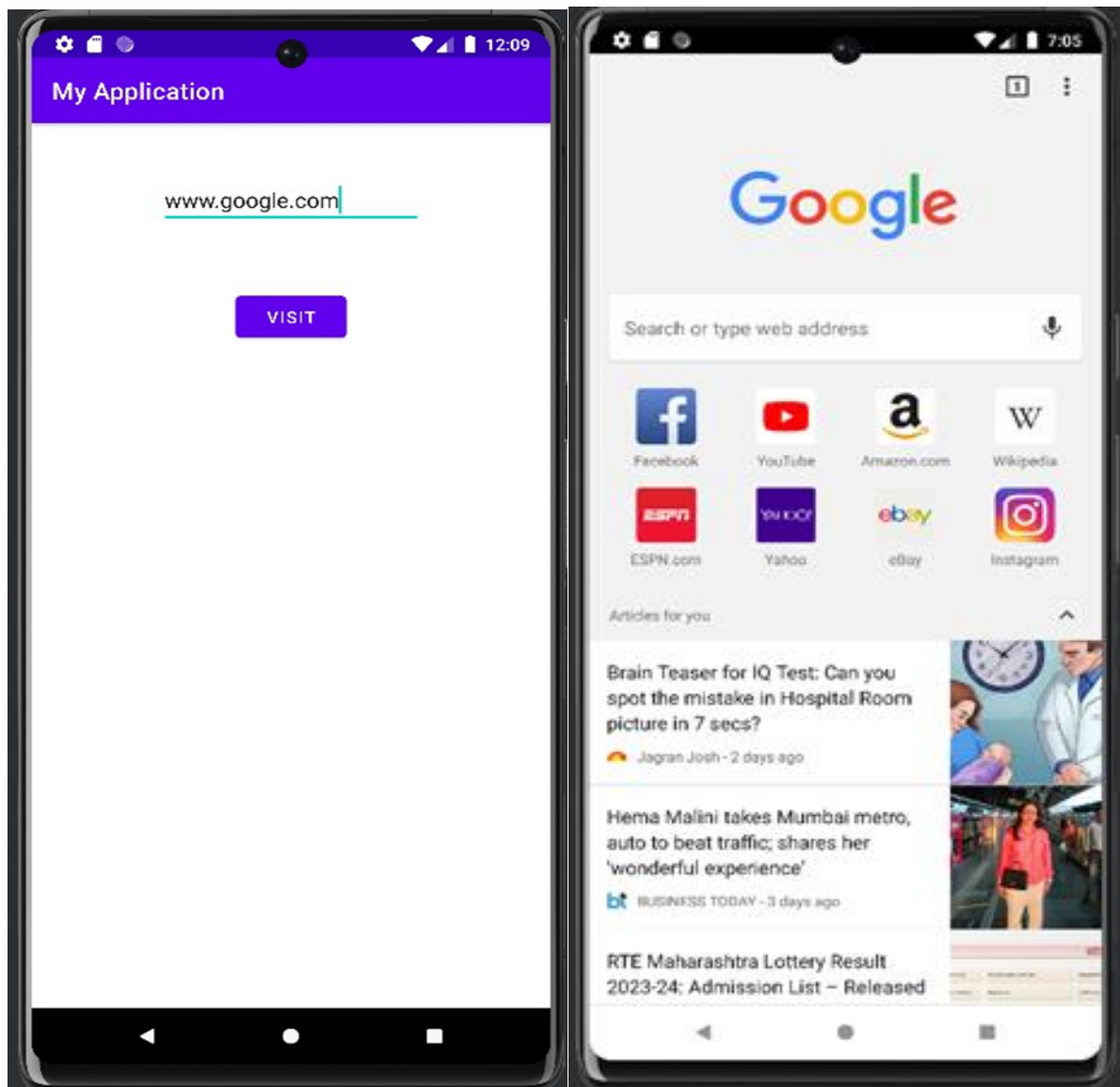
# PRACTICAL 10

Aim: Create an android application to show the notification

**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">

<ImageView

android:id="@+id/imageView"

android:layout_width="40dp"

android:layout_height="40dp"

android:layout_margin="8dp"

android:layout_marginTop="16dp"

app:layout_constraintStart_toStartOf="parent"

app:layout_constraintTop_toTopOf="parent"

app:srcCompat="@drawable/a1" />

<Button

android:text="click"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_alignParentStart="true"

android:layout_alignParentLeft="true"

android:layout_alignParentTop="true"

android:id="@+id/button"

android:layout_marginTop="193dp"

android:onClick="click"

android:textStyle="bold"

android:textSize="24sp"/>

</RelativeLayout>

**MainActivity.java**

```
package com.example.demo.myapplication;

import android.app.NotificationManager;

import android.os.Bundle;

import android.support.v4.app.NotificationCompat;

import android.support.v7.app.AppCompatActivity;

import android.view.View;

public class MainActivity extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity_main);

}
```

```java
public void click(View v)

{

NotificationCompat.Builder nb=new NotificationCompat.Builder(this);

nb.setContentTitle("notification Recieved");

nb.setContentText("Your notification is be prepared for your android exams");

nb.setSmallIcon(R.drawable.a1);

NotificationManager nm =(NotificationManager)getSystemService(NOTIFICATION_SERVICE);

nm.notify(0,nb.build());

nb.setPriority(0);

}

}
```

**Output**