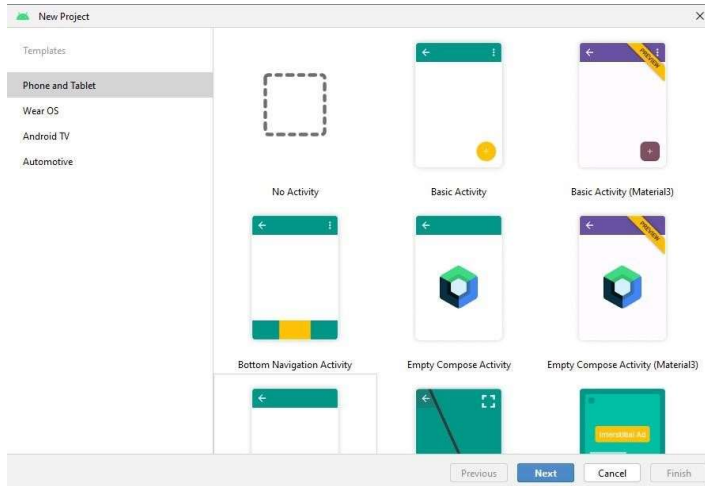## Index Page

PRACTICAL:1

AIM: Introduction to Android, Introduction to Android Studio IDE, Creating a Project, Creating Android Virtual device, Android Application Overview. Simple "Hello World" program.
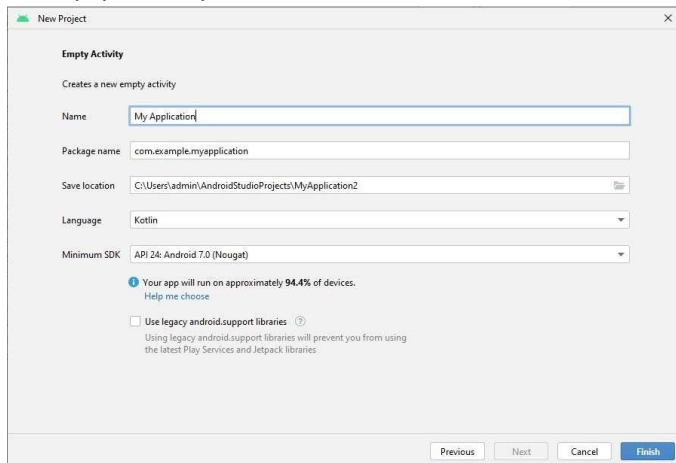
SOURCE CODE:

Hello World Program:

Launch your android studio, click on File>>New>>New Project,

Select Empty Activity and then next,

Provide your Application name and select language as Kotlin and then click on finish.

After few minutes your project will be ready.
activityMain.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" />
```

MainActivity.kt:

```kotlin
package com.example.prac1

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

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```
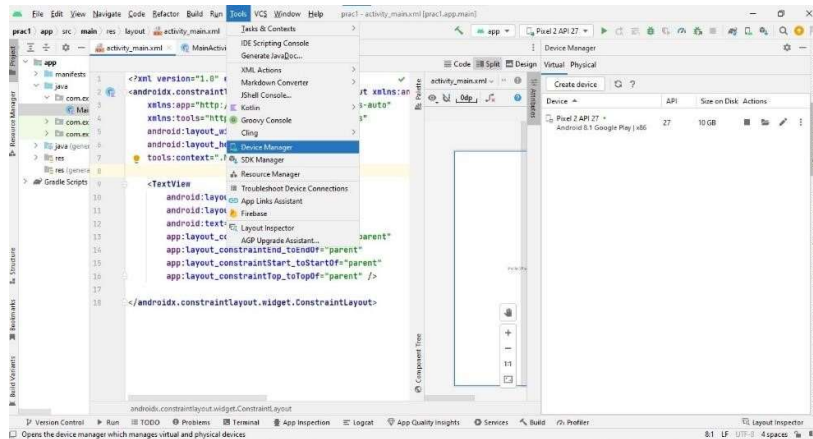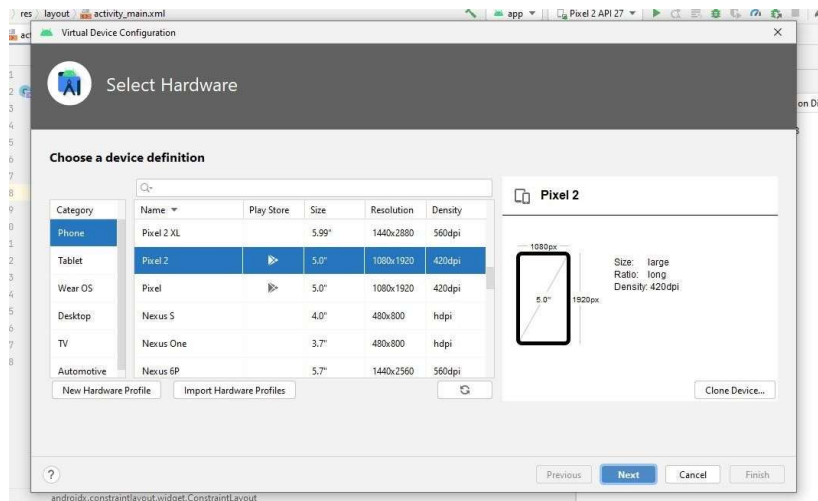
Output:

Creating Android Virtual device:

To open Device Manager:

Click on tools>>DeviceManager

Click on Create virtual device>>Phone>>Pixel>>Next

Select S And download it. Accept the terms and condition and start downloading.
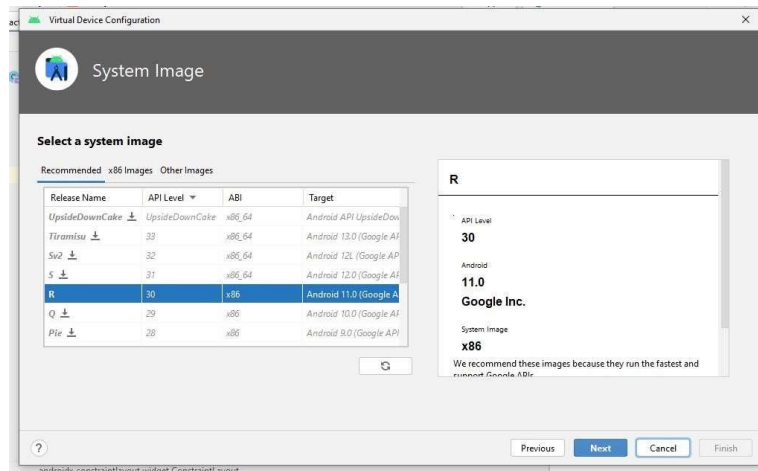
After downloading click on finish your virtual device is created.

PRACTICAL:2

AIM: Android Resources: (Color, Theme, String, Drawable, Dimension, Image).

SOURCE CODE:

Color:

Launch your android studio and create new project. Under Android select res and under res select values and under values select colors.xml.
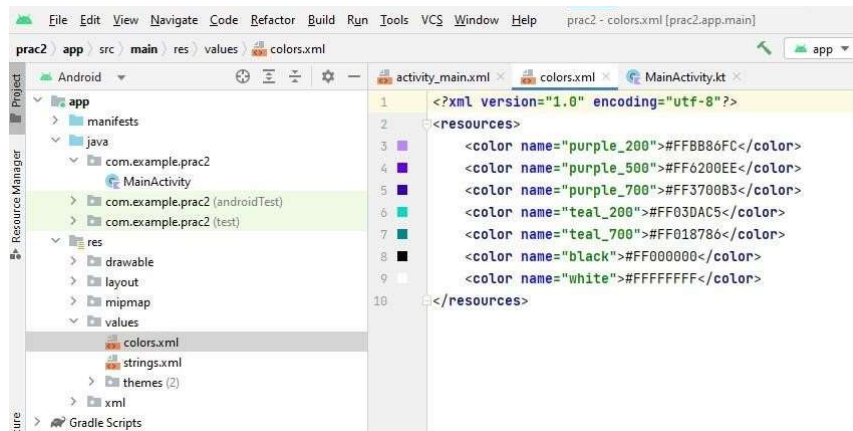
Add you color in colors.xml.

colors.xml:

String:

Launch your android studio and create new project. Under Android select res and under res select values and under values select strings.xml.
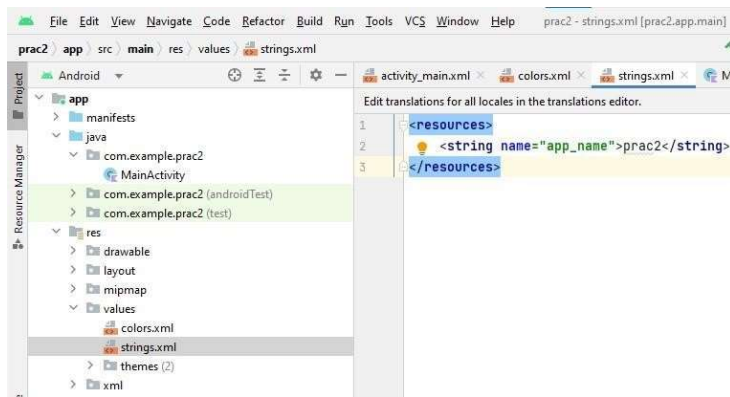
Add your string in strings.xml.

strings.xml:

Drawable:
> 1.   Right click on drawable folder
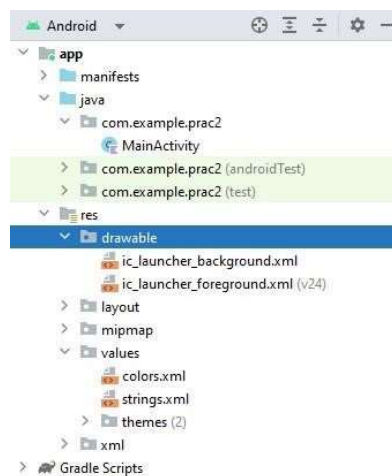
> 2.   Copy the image if you want to create image drawable
> 3.   Paste that image file inside the drawable folder
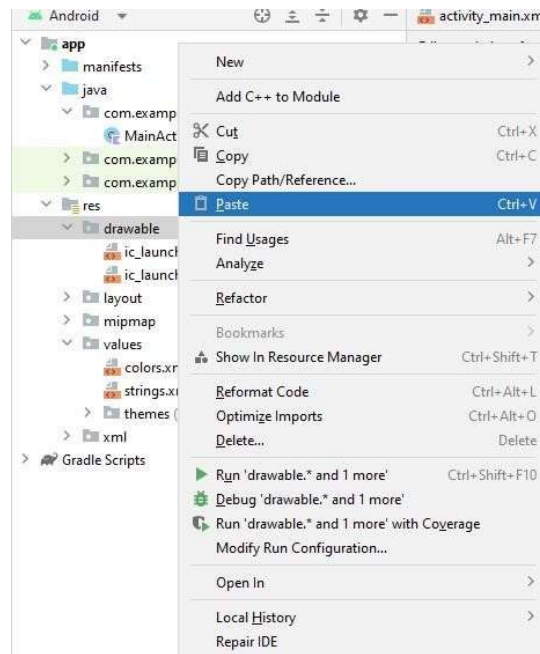
Note: to create drawable resource, right click on drawable folder and select drawable resource file.

Dimension,Image: activityMain.xml:

MainActivity.kt:

```
package com.example.prac2

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

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```

Output:
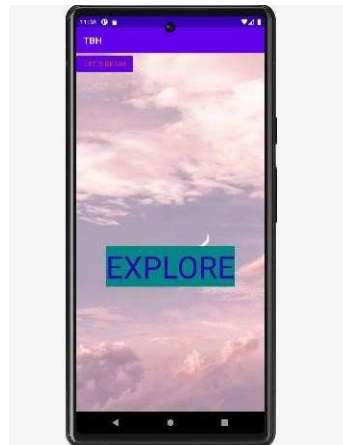
Using ImageView: activityMain.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:background="@color/teal_700"
        android:text="EXPLORE"
        android:textColor="@color/purple_700"
        android:textSize="67sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        tools:layout_editor_absoluteX="143sp"
        tools:layout_editor_absoluteY="435sp"

    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        tools:layout_editor_absoluteX="143sp"
        tools:layout_editor_absoluteY="435sp"
        android:text="LET'S BEGIN!!"
        android:textColor="@color/orange" />
    <ImageView
        android:layout_width="306dp"
        android:layout_height="400dp"
        android:src="@drawable/imgp2"
        android:layout_marginLeft="55dp"/>
</LinearLayout>
```

Output:

PRACTICAL:3(A)

AIM: Multiple Activities **SOURCE CODE:**

activityMain.xml:

```xml
<ImageView
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:src="@drawable/bulb1"
    android:layout_gravity="center" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="This is Home Page.."
    android:textSize="25sp"
    android:layout_gravity="center_horizontal" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/second_page"
    android:text="First Page"
    android:layout_gravity="center_horizontal"
    android:layout_marginTop="10dp" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/third_page"
    android:text="Second Page"
    android:layout_gravity="center_horizontal"
    android:layout_marginTop="10dp" />

</LinearLayout>
```

MainActivity.kt:

```kotlin
package com.example.prac3a

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val first_page=findViewById<Button>(R.id.second_page);
        first_page.setOnClickListener { it: View!
            val intent=Intent( packageContext: this,first_activity::class.java)
            startActivity(intent)
        }
        val second_page=findViewById<Button>(R.id.third_page);
        second_page.setOnClickListener { it: View!
            val intent=Intent( packageContext: this,second_activity::class.java)
            startActivity(intent)
        }
    }
}
```

First_Activity.xml:

```xml
<ImageView
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:src="@drawable/bulb2"
    android:layout_gravity="center" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="This is First Page.."
    android:textSize="25sp"
    android:layout_gravity="center_horizontal" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/home_page"
    android:text="Home Page"
    android:layout_gravity="center_horizontal"
    android:layout_marginTop="10dp" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/third_page"
    android:text="Third Page"
    android:layout_gravity="center_horizontal"
    android:layout_marginTop="10dp" />

</LinearLayout>
```

Activity_First.kt:

```kotlin
package com.example.prac3a

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button

class first_activity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_first)
        val home_page=findViewById<Button>(R.id.home_page);
        home_page.setOnClickListener { it: View!
            val intent=Intent( packageContext: this,MainActivity::class.java)
            startActivity(intent)
        }
        val third_page=findViewById<Button>(R.id.third_page);
        third_page.setOnClickListener { it: View!
            val intent=Intent( packageContext: this,second_activity::class.java)
            startActivity(intent)
        }

    }
}
```

Second_Activity.xml:

```xml
<ImageView
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:src="@drawable/bulb3"
    android:layout_gravity="center" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="This is Second Page.."
    android:textSize="25sp"
    android:layout_gravity="center_horizontal" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/home_page"
    android:text="Home Page"
    android:layout_gravity="center_horizontal"
    android:layout_marginTop="10dp" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/first_page"
    android:text="First Page"
    android:layout_gravity="center_horizontal"
    android:layout_marginTop="10dp" />
```

Activity_Second.kt:

```kotlin
package com.example.prac3a

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button

class second_activity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_second)
        val home_page=findViewById<Button>(R.id.home_page);
        home_page.setOnClickListener { it: View!
            val intent=Intent( packageContext: this,MainActivity::class.java)
            startActivity(intent)
        }
        val first_page=findViewById<Button>(R.id.first_page);
        first_page.setOnClickListener { it: View!
            val intent=Intent( packageContext: this,first_activity::class.java)
            startActivity(intent)
        }
    }
}
```

OUTPUT:
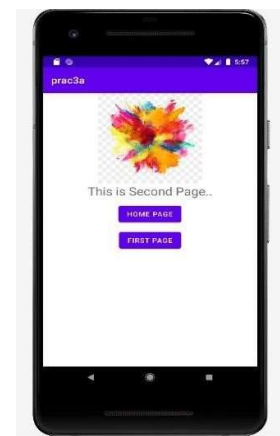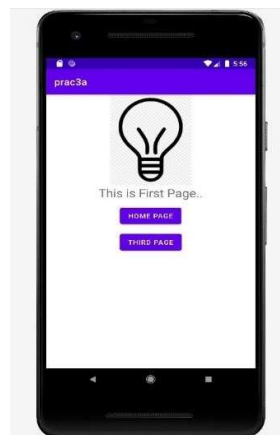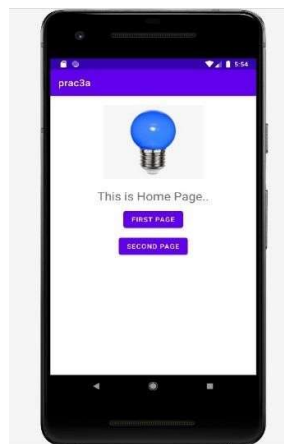
PRACTICAL:3(B)

AIM: Text passing
SOURCE   CODE:
activityMain.xml:

```xml
<ImageView
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:src="@drawable/androidpp"
    android:layout_gravity="center" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="This is Home Page.."
    android:textSize="25sp"
    android:layout_gravity="center_horizontal" />
<EditText
    android:id="@+id/name"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Name"
    android:minHeight="48dp" />
<EditText
    android:id="@+id/Class"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Class"
    android:minHeight="48dp" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/Submit"
    android:layout_gravity="center_horizontal"
    android:text="SUBMIT" />
```

MainActivity.kt:

```kotlin
package com.example.prac3b
import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import java.util.jar.Attributes.Name

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val submit=findViewById<Button>(R.id.Submit)
        submit.setOnClickListener { it: View!
            callActivity()
        }
    }
    private fun callActivity(){
        val name=findViewById<EditText>(R.id.name)
        val std=findViewById<EditText>(R.id.Class)
        val Name=name.text.toString()
        val Std=std.text.toString()
        val intent=Intent( packageContext: this,first_activity::class.java).also { it: Intent
            it.putExtra( name: "Name",Name)
            it.putExtra( name: "STD",Std)
            startActivity(it)
        }
    }
}
```

FirstActivity.xml:

```xml
<ImageView
    android:layout_width="200dp"
    android:layout_height="200dp"
    android:src="@drawable/androidp1"
    android:layout_gravity="center" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="This is First Page.."
    android:textSize="25sp"
    android:layout_gravity="center_horizontal" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/text1"
    android:textSize="25sp"
    android:layout_gravity="center_horizontal" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/text2"
    android:textSize="25sp"
    android:layout_gravity="center_horizontal" />
```

activityFirst.kt:

```kotlin
package com.example.prac3b

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.TextView
import java.util.jar.Attributes.Name

class first_activity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_first)
        val Name=intent.getStringExtra( name: "NAME")
        val Std=intent.getStringExtra( name: "STD")
        val txt1=findViewById<TextView>(R.id.text1).apply { text=Name }
        val txt2=findViewById<TextView>(R.id.text2).apply { text=Std }
    }
}
```

Output:
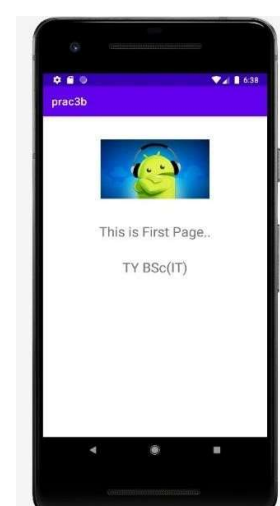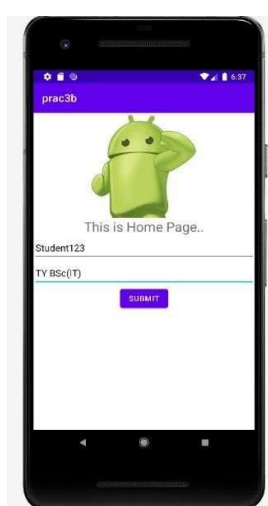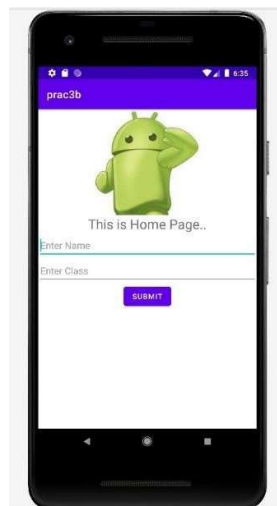
PRACTICAL:4

AIM: Programs related to different Layouts(Linear, Relative Layout)

SOURCE CODE: Constraint

Layout: activityMain.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:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="This is Home Page!!!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:layout_marginTop="16dp"
        android:layout_marginEnd="16dp"
        android:layout_marginBottom="16dp"
        android:text="Click Here..."
        android:textSize="10dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.456"

        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.643" />

    <ImageView
        android:layout_width="200dp"
        android:layout_height="200dp"
        app:layout_constraintBottom_toTopOf="@+id/textView"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.497"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.544"
        android:src="@drawable/house" />

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

MainActivity.kt:

```kotlin
package com.example.prac4

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

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }
}
```

Output:
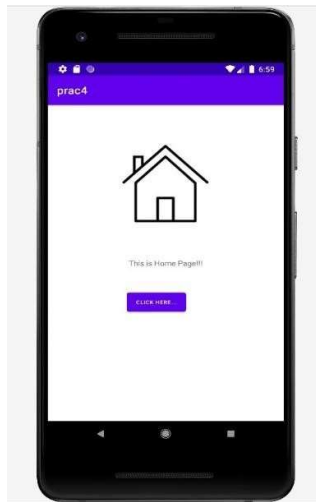
LinearLayout(Horizontal):

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="horizontal"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/house" />
    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/bulb2" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="AMP Journal" />

</LinearLayout>
```

Output:

LinearLayout(Vertical):

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/house" />
    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:src="@drawable/bulb2" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="AMP Journal" />

</LinearLayout>
```

Output:

ListView():

activityMain.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <ListView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/centrelist"
        ></ListView>

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

MainActivity.kt:

```kotlin
package com.example.listbox

import ...

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val centre= arrayOf("Mumbai","Raigad","Nashik","Pune","Jalgaon","vadodara")
        val listView=findViewById<ListView>(R.id.centrelist)
        listView.adapter=ArrayAdapter<String>( context: this,android.R.layout.simple_list_item_1,centre)
        listView.setOnItemClickListener{adapterView,view,i,l->
            val toast=Toast.makeText( context: this, text: "you selected "+centre[i],Toast.LENGTH_LONG).show()
        }
    }
}
```

Output:
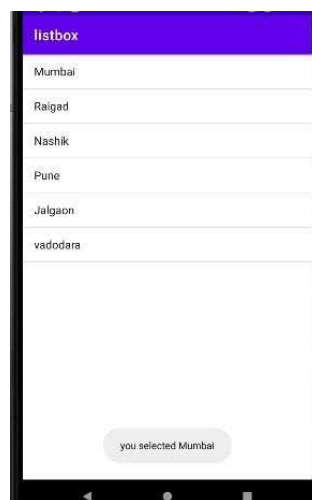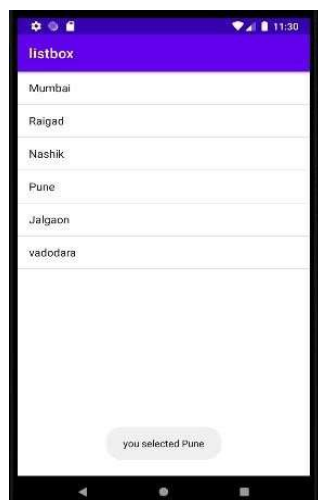
GridLayout:

activityMain.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<GridLayout 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:layout_margin="15sp"
    android:background="@color/purple_200"
    android:orientation="vertical"
    tools:context=".MainActivity">
    <ImageView
        android:layout_width="161dp"
        android:layout_height="165dp"
        android:layout_row="0"
        android:layout_marginTop="10dp"
        android:layout_gravity="center_horizontal"
        android:layout_column="0"
        android:src="@drawable/androidpp" />
    <ImageView
        android:layout_width="168dp"
        android:layout_height="135dp"
        android:layout_row="0"
        android:layout_column="1"
        android:layout_gravity="center_horizontal"
        android:layout_marginTop="10dp"
        android:src="@drawable/androidp1" />
    <ImageView
        android:layout_width="164dp"
        android:layout_height="169dp"
        android:layout_row="1"
        android:layout_marginTop="15dp"
        android:layout_gravity="center_horizontal"
        android:layout_column="0"
        android:src="@drawable/bulb1" />
    <ImageView
        android:layout_width="123dp"
        android:layout_height="194dp"
        android:layout_row="1"
        android:layout_column="1"
        android:layout_gravity="center_horizontal"
        android:src="@drawable/bulb2" />
    <ImageView
        android:layout_width="214dp"
        android:layout_height="171dp"
        android:layout_row="2"
        android:layout_gravity="center_horizontal"
        android:layout_column="0"
        android:src="@drawable/bulb3" />
    <ImageView
        android:layout_width="167dp"
        android:layout_height="167dp"
        android:layout_row="2"
        android:layout_column="1"
        android:layout_gravity="center_horizontal"
        android:src="@drawable/house" />
</GridLayout>
```

Output:

RelativeLayout: activityMain.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:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Click here..."
        android:textSize="10dp" />
    <ImageView
        android:layout_width="200dp"
        android:layout_height="200dp"
        android:src="@drawable/bulb3" />

</RelativeLayout>
```

Output:

PRACTICAL:5

**AIM: Alert Box SOURCE
CODE:**

activityMain.xml:

```xml
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:gravity="center_horizontal"
    android:layout_marginTop="150sp"
    android:textColor="@color/teal_700"
    android:text="ALERT!!!"
    app:layout_constraintBottom_toBottomOf="parent"
    android:textSize="40sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:layout_width="match_parent"
    android:textColor="@color/teal_700"
    android:layout_height="wrap_content"
    android:layout_marginTop="50sp"
    android:gravity="center_horizontal"
    android:textSize="30sp"
    android:text="Click the below button" />

<Button
    android:id="@+id/next"
    android:layout_gravity="center"
```

MainActivity.kt:

```kotlin
package com.example.prac5

import ...

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val nxt=findViewById<Button>(R.id.next)
        nxt.setOnClickListener { it: View!
            callActivity()
        }
    }
    private fun callActivity(){
        val builder=AlertDialog.Builder( context: this)
        builder.setTitle("Confirmation Required!!")
        builder.setMessage("Are you sure?")
        builder.setPositiveButton( text: "CONFIRM",{dialogInterface,i->call()})
        builder.setNegativeButton( text: "NO",{dialogInterface,i->})
        builder.show()
    }
    private fun call(){
        val intent=Intent( packageContext: this,First::class.java)
        startActivity(intent)
    }
}
```

First_activity.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".First">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="300sp"
        android:gravity="center_horizontal"
        android:textSize="40sp"
        android:textColor="@color/teal_700"
        android:text="Alert Box has been Displayed..."/>
</LinearLayout>
```
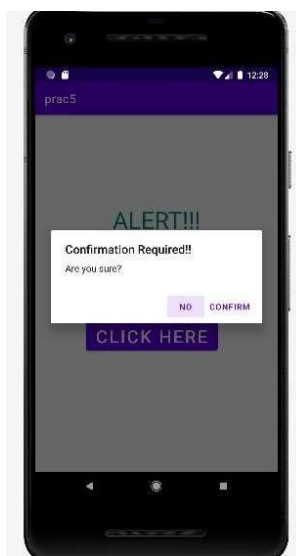
First_activity.kt:

```kotlin
package com.example.prac5

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

class First : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_first)
    }
}
```

OUTPUT :

Alert on Button Pressed:

activityMain.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:text="ALERT!!!"
        android:textColor="@color/red"
        android:textSize="50sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</LinearLayout>
```

MainActivity.kt:

```kotlin
package com.example.prac5

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

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }

    override fun onBackPressed() {
        val builder=AlertDialog.Builder( context: this)
        builder.setTitle("Exit Alert !!!")
        builder.setMessage("Do you really want to exit ?")
        builder.setPositiveButton( text: "Yes",{dialogInterface,i->finish()})
        builder.setNegativeButton( text: "No",{dialogInterface,i->})
        builder.show()

    }
}
```
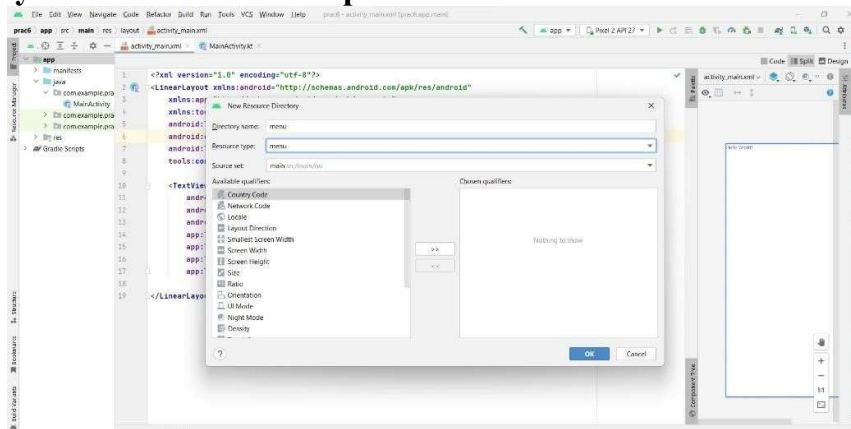
Output:
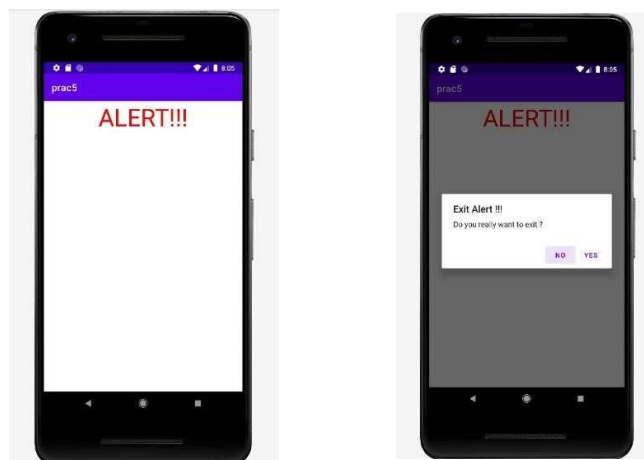
PRACTICAL:6

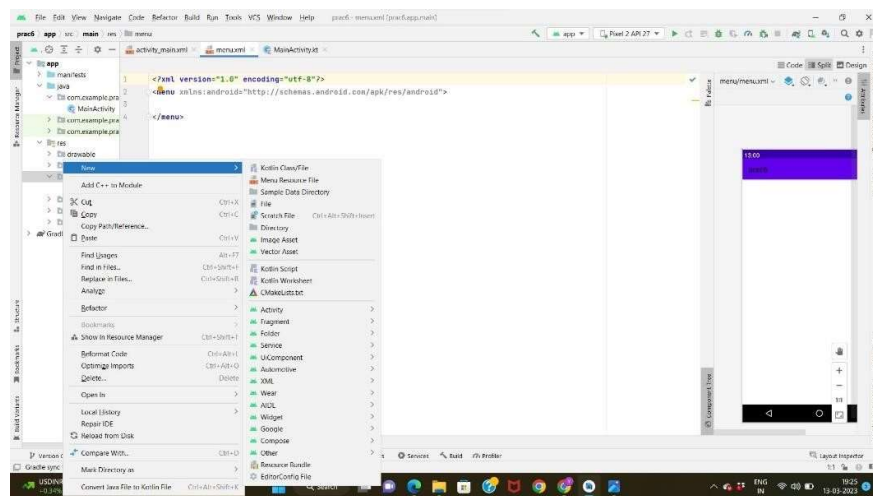**AIM:** Programming menus, dialog **SOURCE CODE:**
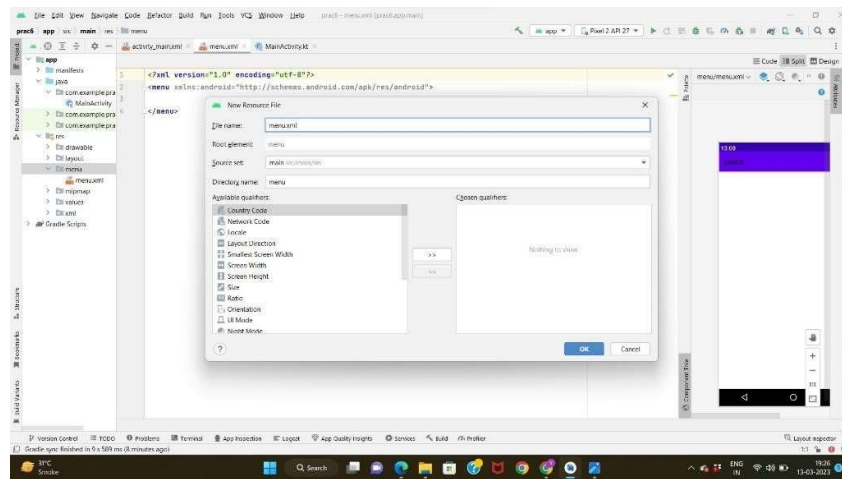
Menu:

Under Android right click on app select new select android resource directory a new window will open like this

Put menu for both directory name and resource type and then press ok. After that under android menu will appear like above window right click on that

Select menu resource file a new window will open like this

Put file name as menu.xml and press ok

Menu.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:title="Contact Us"
        android:id="@+id/menu1" />
    <item
        android:title="About Us"
        android:id="@+id/menu2" />
    <item
        android:title="Help"
        android:id="@+id/menu3" />

</menu>
```

activityMain.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="HELLO WORLD!!"
        android:layout_gravity="center_horizontal"
        android:textColor="@color/teal_700"
        android:textSize="30sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</LinearLayout>
```

MainActivity.kt:

```
package com.example.prac6

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

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
    }

    override fun onCreateOptionsMenu(menu: Menu?): Boolean {
        menuInflater.inflate(R.menu.menu,menu)
        return super.onCreateOptionsMenu(menu)
    }

    override fun onOptionsItemSelected(item: MenuItem): Boolean {
        var optionselected=""
        when (item?.itemId){
            R.id.menu1->optionselected="menu1 selected"
            R.id.menu2->optionselected="menu2 selected"
            R.id.menu3->optionselected="menu3 selected"
        }
        Toast.makeText( context: this,optionselected,Toast.LENGTH_LONG).show()

        return super.onOptionsItemSelected(item)
    }
}
```
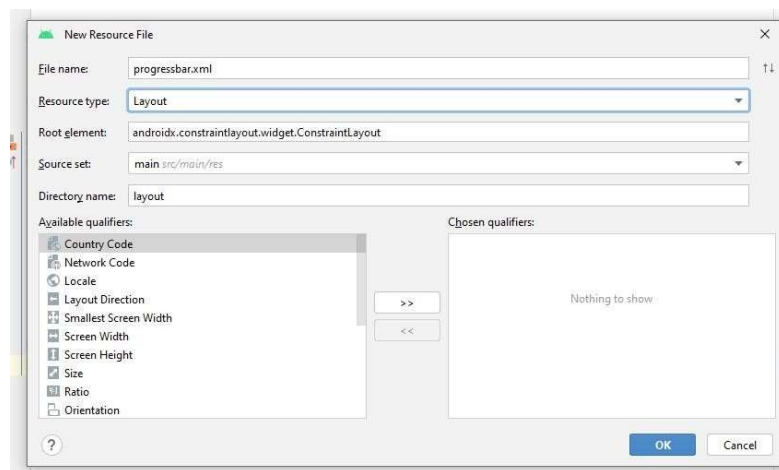
Output:
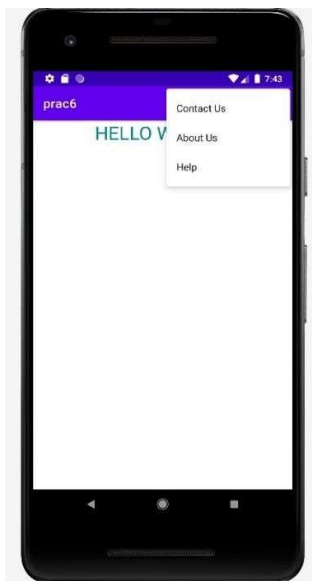
PRACTICAL:7

AIM: Progress   Bar

SOURCE CODE:

Under Android right click on app select new select android resource file a new window will open like this, put file name as progressbar.xml and resource type as layout

activityMain.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center_horizontal"
        android:id="@+id/text1"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</LinearLayout>
```

MainActivity.kt:

```kotlin
package com.example.progressbar

import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.TextView
import androidx.appcompat.app.AlertDialog

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val builder=AlertDialog.Builder( context: this)
        val dialogView = layoutInflater.inflate(R.layout.progress_bar, root: null)
        val message = dialogView.findViewById<TextView>(R.id.text1)
        message.text="Downloading data....."
        builder.setView(dialogView)
        builder.show()
    }
}
```

Progress_bar.xml:

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:layout_height="match_parent">
    <ProgressBar
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/text1"
        android:textSize="30sp"
        android:gravity="center"
        android:text="Downloading text....." />
</LinearLayout>
```

<u>Output:</u>

PRACTICAL:8(A)

AIM: Explicit Intent
SOURCE CODE:

activityMain.xml:

```xml
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="If you want to continue\n Kindly press the Button!"
    android:layout_marginTop="250sp"
    android:textSize="35sp"
    android:textColor="@color/teal_700"
    android:layout_gravity="center"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
<Button
    android:id="@+id/redirect"
    android:layout_marginTop="100sp"
    android:textSize="25dp"
    android:layout_gravity="center"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Click Here" />
```

MainActivity.kt:

```kotlin
package com.example.url_navigation

import ...

class MainActivity : AppCompatActivity() {
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        val red=findViewById<Button>(R.id.redirect)
        red.setOnClickListener { it: View!
            val intent=Intent()
            intent.action=Intent.ACTION_VIEW
            intent.data= Uri.parse( uriString: "https://www.google.co.in/")
            startActivity(intent)
        }
    }
}
```

OUTPUT :
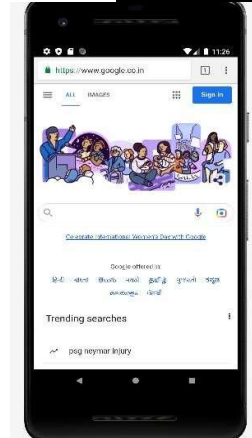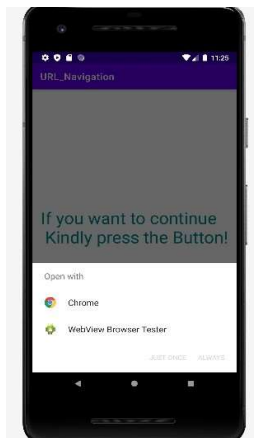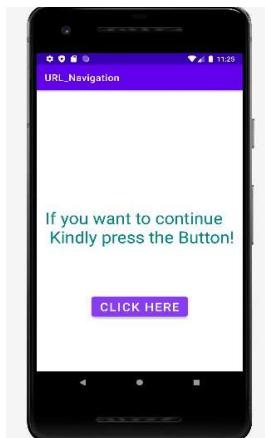
PRACTICAL:8(B)

AIM: Permission

SOURCE   CODE:

activityMain.xml

:

Add one in android manifest

```xml
<uses-permission android:name="android.permission.CAMERA"/>
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <uses-permission android:name="android.permission.CAMERA"/>
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="practical_8_"
        android:supportsRtl="true"
        android:theme="@style/Theme.Practical_8_"
        tools:targetApi="31">
        <activity
```

MainActivity.kt:

```kotlin
package com.example.practical_8_

import ...

class MainActivity : AppCompatActivity() {
    private val code=123
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        setupPermission()
    }
    private fun setupPermission(){
        val permission = ContextCompat.checkSelfPermission( context: this,android.Manifest.permission.CAMERA)
        if(permission!=PackageManager.PERMISSION_GRANTED){
            makeRequest()
        }
    }

    private fun makeRequest(){
        ActivityCompat.requestPermissions( activity: this, arrayOf(android.Manifest.permission.CAMERA),code)
    }
```

```kotlin
override fun onRequestPermissionsResult(
    requestCode: Int,
    permissions: Array<out String>,
    grantResults: IntArray
) {
    super.onRequestPermissionsResult(requestCode, permissions, grantResults)
    when(requestCode){
        code->{
            if(grantResults.isEmpty()||grantResults[0]!=PackageManager.PERMISSION_GRANTED){
                Toast.makeText( context: this,  text: "permission denied", Toast.LENGTH_LONG).show()
            }
            else{
                Toast.makeText( context: this,  text: "permission granted", Toast.LENGTH_LONG).show()
            }
        }
    }
}
```

OUTPUT :