helloworld(experiment1)
helloworld.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">


    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="166dp"
        android:layout_marginTop="313dp"
        android:text="Click Me"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

helloworld.java

```java
package com.example.helloworld;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    private Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button=findViewById(R.id.button);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(MainActivity.this, "HELLO WORLD", Toast.LENGTH_SHORT).show();
            }
        });
```

```
    }
}
```

DISPLAY TOAST ON BUTTON CLICK(ex2)

mainActivity.java

```java
package com.example.toast;
import.....
public class MainActivity extends AppCompatActivity {
    Button bl;
@override
protected void onCreate (Bundle savedInstanceState){
super.onCreate(savedInstanceState);
setContentView (R.Layout.activity_main);
bl=(Button) findViewById (R.id.button);
bl.setOnClickListener(new View.OnClickListener(){

@override
public void onClick(View view){
  Toast.makeText(context: MainActivity.this,text:"Toast Message",Toast.LENGTH_SHORT).show();
}
});
}
}
```

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">

<Button
android:id="@+id/button"
android: layout_width="wrap_content"
android: layout_height="wrap_content"
android: layout_marginBottom="556dp"
android:text="ToastMessage"
app: layout_constrainBottom_toBottomOf="parent"
tools=layout_editor_absolutex="74dp"/>

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

COPY TEXT ON BUTTON (exp3)

mainActivity.java

```java
package com.example.copytext;
import…
public class MainActivity extends AppCompatActivity {
    private EditText etn;
    private Button button;
    @override
    Protected void onCreate (Bundle savedInstanceState ){
        super.onCreate(savedInstanceState);
        setContentView (R.layout.activity_main);

        etn = findViewById (R.id.etn);
        button = findViewById (R.id.button);
    }
public void btncopy(View view){
ClipboardManager clipboard=(clipboardManager)getSystemService(CLIPBOARD_SERVICE);
clipData clip=ClipData.newPlainText(label:"EditText",etn.getText().toString());
clipboard.setPrimaryClip(clip);
Toast.makeText(context: MainActivity.this, text:"copied.",Toast.LENGTH_SHORT).show();
}
}
android
```

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/tools"
android: layout_width="match_parent"
android: layout_height="match_parent"
tools: context=".MainActivity">

<Button
android:id="@+id/button"
android: layout_width="wrap_content"
android: layout_height="wrap_content"
android:onClick="btncopy"
android:text="copy"
android: layout_constraintBottom_toBottomOf="parent"
android: layout_constraintEnd_toEndOf="parent"
android: layout_constraintHorizontal_bias="0.498"
android: layout_constraintStart_toStartOf="parent"
android: layout_constraintTop_toTopOf="parent"
android: layout_constraintVertical_bias="0.59"/>
<EditText
android:id="@+id/etn"
android: layout_width="wrap_content"
```

android: layout_height="wrap_content"
android: layout_marginTop="224dp"
android:ems="10"
android:hint="TEXT HERE"
android:inputtype ="textPersonName"

app: layout_constraintEnd_toEndOf="parent"
app: layout_constraintHorizontal_bias="0.497"
app: layout_constraintStart_toStartOf="parenap"
app: layout_constraintTop_toTopOf="parent"
app: layout_constraintVertical_bias="0.58"/>
</androidx.constraintlayout.widget.ConstraintLayout>

login from using toast(ex4)

activity main

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

   <TextView android:text = "Login" android:layout_width="wrap_content"
      android:layout_height = "wrap_content"
      android:id = "@+id/textview"
      android:textSize = "35dp"
      android:layout_alignParentTop = "true"
      android:layout_centerHorizontal = "true" />

   <TextView
      android:layout_width = "wrap_content"
      android:layout_height = "wrap_content"
      android:text = "My Login"
      android:id = "@+id/textView"
      android:layout_below = "@+id/textview"
      android:layout_centerHorizontal = "true"
      android:textColor = "#ff7aff24"
      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:textColorHint = "#ffff25e6"
      android:layout_marginTop = "46dp"
```

```xml
        android:layout_below = "@+id/imageView"
        android:layout_alignParentLeft = "true"
        android:layout_alignParentStart = "true"
        android:layout_alignParentRight = "true"
        android:layout_alignParentEnd = "true" />

    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/imageView"

        android:layout_below="@+id/textView"
        android:layout_centerHorizontal="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:textColorHint="#ffff299f"
        android:hint="Password" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Attempts Left:"
        android:id="@+id/textView2"
        android:layout_below="@+id/editText2"
        android:layout_alignParentLeft="true"
        android:layout_alignParentStart="true"
        android:textSize="25dp" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="New Text"
        android:id="@+id/textView3"
        android:layout_alignTop="@+id/textView2"
        android:layout_alignParentRight="true"
        android:layout_alignParentEnd="true"
        android:layout_alignBottom="@+id/textView2"
        android:layout_toEndOf="@+id/textview"
        android:textSize="25dp"
```

```xml
            android:layout_toRightOf="@+id/textview" />

    <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.anu.mc;

import android.app.Activity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;

import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;


public class MainActivity extends Activity  {
    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);
```

```java
        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);
        tx1.setVisibility(View.GONE);

        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if(ed1.getText().toString().equals("admin") &&
                        ed2.getText().toString().equals("admin")) {
                    Toast.makeText(getApplicationContext(),
                            "Redirecting...",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();
            }
        });
    }
}
```

Display alertDialoge on button click(exp6)

mainactivity.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"
```

```xml
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/etmsg"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="text"
        android:inputType="textPersonName"
        android:text="text"
        app:layout_constraintBottom_toBottomOf="parent"
        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="0.36" />

    <Button
        android:id="@+id/btnshow"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/etmsg"
        app:layout_constraintVertical_bias="0.332" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Mainactivity.java

```java
package com.example.alertdialogue;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {

    Button btnshow;
    EditText etmsg;
```

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

        btnshow=(Button) findViewById(R.id.btnshow);
        etmsg=(EditText) findViewById(R.id.etmsg);
        btnshow.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                builder.setTitle("Alert");
                builder.setMessage(etmsg.getText().toString());
                builder.show();
            }
        });
    }
}
```

Login from using alert dialogue(exp7)

mainactivity.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">

    <EditText
        android:id="@+id/etname"
        android:layout_width="164dp"
        android:layout_height="40dp"
        android:layout_marginBottom="516dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="Name"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.364"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/btnok"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```xml
        android:text="OK"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.094"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.601" />

    <Button
        android:id="@+id/btnclear"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CLEAR"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.908"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.601" />

    <EditText
        android:id="@+id/etpass"
        android:layout_width="165dp"
        android:layout_height="42dp"
        android:layout_marginTop="56dp"
        android:ems="10"
        android:inputType="textPersonName"
        android:hint="Password"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.373"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/etname"
        app:layout_constraintVertical_bias="0.0" />

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

mainactivity.java

```java
package com.example.loginalertdialogue;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

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

```java
public class MainActivity extends AppCompatActivity {

    Button btok,btclear;
    EditText etname,etpass;


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

        btok = (Button) findViewById(R.id.btnok);
        btclear = (Button) findViewById(R.id.btnclear);
        etname = (EditText) findViewById(R.id.etname);
        etpass = (EditText) findViewById(R.id.etpass);
        btok.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {


if((etname.getText().toString().equals("Arjun"))&&(etpass.getText().toString().equals("1234")))
                {
                    AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                    builder.setTitle("Login Success");
                    builder.setMessage("Welcome");
                    builder.show();
                }
                else{
                    AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                    builder.setTitle("Login Failed");
                    builder.setMessage("Sorry");
                    builder.show();
                }
            }
        });
        btclear.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view) {
                etname.setText("");
                etpass.setText("");
            }
        });

    }
}
```

Login form using intent(ex9)

mainactivity.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/name"
        android:layout_width="wrap_content"
        android:layout_height="146dp"
        android:layout_above="@+id/pass"
        android:layout_alignParentStart="true"
        android:layout_alignParentTop="true"
        android:layout_alignParentEnd="true"
        android:layout_centerHorizontal="true"
        android:layout_marginStart="63dp"
        android:layout_marginTop="69dp"
        android:layout_marginEnd="33dp"
        android:layout_marginBottom="35dp"
        android:ems="10"
        android:hint="Name"
        android:inputType="textPersonName"
        android:textAlignment="center"
        android:textSize="20dp"
        app:layout_constraintBottom_toTopOf="@+id/pass"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:ignore="UnknownId" />

    <EditText
        android:id="@+id/pass"
        android:layout_width="258dp"
        android:layout_height="84dp"
        android:layout_above="@+id/btn"
        android:layout_alignParentEnd="true"
        android:layout_centerInParent="true"
        android:layout_marginTop="46dp"
        android:layout_marginEnd="80dp"
        android:layout_marginBottom="152dp"
        android:ems="10"
        android:hint="Password"
        android:inputType="textPassword"
        android:textAlignment="center"
```

```xml
        android:textSize="20dp"
        app:layout_constraintBottom_toTopOf="@+id/btn"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@id/name"
        tools:ignore="UnknownId" />

    <Button
        android:id="@+id/btn"
        android:layout_width="wrap_content"
        android:layout_height="58dp"
        android:layout_alignParentEnd="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="58dp"
        android:layout_marginTop="37dp"
        android:layout_marginEnd="61dp"
        android:layout_marginBottom="169dp"
        android:text="OK"
        android:textSize="15dp"

        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toStartOf="@+id/cancel"
        app:layout_constraintTop_toBottomOf="@id/pass" />

    <Button
        android:id="@+id/cancel"
        android:layout_width="128dp"
        android:layout_height="wrap_content"
        android:layout_alignParentStart="true"
        android:layout_alignParentBottom="true"
        android:layout_marginStart="59dp"
        android:layout_marginTop="25dp"
        android:layout_marginEnd="30dp"
        android:layout_marginBottom="169dp"
        android:text="cancel"
        android:textSize="10dp"

        />


</RelativeLayout>
```

Mainactivity.java

```java
package com.example.experiment9th;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
```

```java
import android.os.Bundle;
import android.view.View;
import android.view.inputmethod.InputConnectionWrapper;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    Button ok,cancel;
    EditText name,pass;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ok=findViewById(R.id.btn);
        cancel=findViewById(R.id.cancel);
        name=findViewById(R.id.name);
        pass=findViewById(R.id.pass);

        ok.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if (name.getText().toString().equals("shalini") && (pass.getText().toString().equals("1234")))
                {
                    Intent intent =new Intent(MainActivity.this,home.class);
                    Bundle b=new Bundle();
                    b.putString("n",name.getText().toString());
                    b.putString("p",pass.getText().toString());
                    intent.putExtra("bsl",b);
                    startActivity(intent);

                }else{
                    AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                    builder.setMessage("LOGIN FAILED");
                    builder.setTitle("Alert");
                    builder.show();
                    name.setText("");
                    pass.setText("");
                }
            }
        });

        cancel.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                name.setText("");
                pass.setText("");
            }
        });
```

```
        }
}
```

home.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=".home">

    <TextView
        android:id="@+id/textView"
        android:layout_width="250dp"
        android:layout_height="50dp"
        android:layout_marginStart="50dp"
        android:layout_marginTop="57dp"
        android:layout_marginEnd="111dp"
        android:text="Welcome"
        android:textSize="20dp"
        android:textStyle="bold"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/textView2"
        android:layout_width="246dp"
        android:layout_height="43dp"
        android:layout_marginStart="49dp"
        android:layout_marginTop="87dp"
        android:layout_marginEnd="116dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView" />

    <TextView
        android:id="@+id/textView3"
        android:layout_width="243dp"
        android:layout_height="41dp"
        android:layout_marginStart="57dp"
        android:layout_marginTop="43dp"
        android:layout_marginEnd="111dp"
        android:text="TextView"
        app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

home.java

```java
package com.example.experiment9th;

import androidx.appcompat.app.AppCompatActivity;

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

public class home extends AppCompatActivity {
    TextView txt1,txt2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_home);
        Intent intent=getIntent();
        Bundle b=intent.getBundleExtra("bsl");
        String name=b.getString("n");
        String pass=b.getString("p");
        txt1=findViewById(R.id.textView2);
        txt2=findViewById(R.id.textView3);
        txt1.setText("Name :"+name);
        txt2.setText("Password :"+pass);

    }
}
```

```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">

    <EditText
        android:id="@+id/edt_f"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="First number"
        android:inputType="textPersonName"
```

```xml
        app:layout_constraintBottom_toBottomOf="parent"
        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="0.18" />

    <EditText
        android:id="@+id/edt_s"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Second number"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        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="0.3" />

    <Button
        android:id="@+id/bt_add"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="add"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.309"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.55" />

    <Button
        android:id="@+id/bt_sub"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="sub"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.681"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.55" />

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

Simple calculator using alert dialogue(ex9)

.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">

    <EditText
        android:id="@+id/edt_f"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="First number"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        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="0.18" />

    <EditText
        android:id="@+id/edt_s"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:hint="Second number"
        android:inputType="textPersonName"
        app:layout_constraintBottom_toBottomOf="parent"
        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="0.3" />

    <Button
        android:id="@+id/bt_add"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="add"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.309"
```

```xml
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toTopOf="parent"
            app:layout_constraintVertical_bias="0.55" />

    <Button
        android:id="@+id/bt_sub"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="sub"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.681"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.55" />

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

.java

```java
package com.example.ex8;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public  class MainActivity extends AppCompatActivity {
    EditText fnum,snum ;
    Button add,sub;
    Integer n1,n2,r;

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

        fnum = findViewById(R.id.edt_f);
        snum = findViewById(R.id.edt_s);
        add = findViewById(R.id.bt_add);
        sub =  findViewById(R.id.bt_sub);
        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                n1 = Integer.parseInt(fnum.getText().toString());
```

```java
                n2 = Integer.parseInt(snum.getText().toString());
                Intent i = new Intent(MainActivity.this, second.class);
                r = n1 + n2;
                AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                builder.setMessage(r.toString());
                builder.setTitle("result");
                builder.show();
            }



        });

        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                n1 = Integer.parseInt(fnum.getText().toString());
                n2 = Integer.parseInt(snum.getText().toString());
                Intent i = new Intent(MainActivity.this, second.class);
                r = n1 - n2;
                AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
                builder.setMessage(r.toString());
                builder.setTitle("result");
                builder.show();

            }
        });
    }
}
```

Simple calculator using toast(ex4)

.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">

    <EditText
        android:id="@+id/etn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
```

```xml
        android:inputType="number"
        android:hint="enter number1"
        app:layout_constraintBottom_toTopOf="@+id/etn2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.452"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.699" />

    <EditText
        android:id="@+id/etn2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginBottom="508dp"
        android:ems="10"
        android:inputType="number"
        android:hint="enter number2"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.452"
        app:layout_constraintStart_toStartOf="parent" />

    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="288dp"
        android:onClick="btnadd"
        android:text="Add"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.725"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <Button
        android:id="@+id/btn2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="28dp"
        android:onClick="btnsub"
        android:text="Sub"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.725"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/btn1" />

    <Button
        android:id="@+id/btn3"
        android:layout_width="wrap_content"
```

```xml
    android:layout_height="wrap_content"
    android:layout_marginTop="20dp"
    android:onClick="btnmul"
    android:text="Mul"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.725"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/btn2" />

<Button
    android:id="@+id/btn4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="32dp"
    android:onClick="btndiv"
    android:text="Div"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.725"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/btn3" />

<Button
    android:id="@+id/btn5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:onClick="btntoast"
    android:text="Toast"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.725"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/btn4"
    app:layout_constraintVertical_bias="0.17" />

<TextView
    android:id="@+id/tvResult"
    android:layout_width="85dp"
    android:layout_height="23dp"
    android:layout_marginBottom="420dp"
    android:text="Result"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.279"
    app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

.java

```java
package com.example.simplecalculator;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    private EditText etn1;
    private EditText etn2;
    private TextView tvResult;

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

        etn1=(EditText) findViewById(R.id.etn1);
        etn2=(EditText) findViewById(R.id.etn2);
        tvResult=(TextView) findViewById(R.id.tvResult);
    }

    public void btnadd(View view) {
        int n1=Integer.parseInt(etn1.getText().toString());
        int n2=Integer.parseInt(etn2.getText().toString());
        int sum=n1 + n2;
        tvResult.setText(String.valueOf(sum));
    }

    public void btnsub(View view) {
        int n1=Integer.parseInt(etn1.getText().toString());
        int n2=Integer.parseInt(etn2.getText().toString());
        int sum=n1 - n2;
        tvResult.setText(String.valueOf(sum));
    }

    public void btnmul(View view) {
        int n1=Integer.parseInt(etn1.getText().toString());
        int n2=Integer.parseInt(etn2.getText().toString());
        int sum=n1 * n2;
        tvResult.setText(String.valueOf(sum));
    }

    public void btndiv(View view) {
```

```java
        int n1=Integer.parseInt(etn1.getText().toString());
        int n2=Integer.parseInt(etn2.getText().toString());
        int sum=n1 / n2;
        tvResult.setText(String.valueOf(sum));
    }

    public void btntoast(View view) {
        Toast.makeText(MainActivity.this,"SUCCESSFUL",Toast.LENGTH_SHORT).show();
    }
}
```