

-----COLOUR CHANGING-----

.xml

```
<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="168dp"
    android:onClick="f1"
    android:text="Red"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/b2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="1dp"
    android:layout_marginTop="73dp"
    android:onClick="f2"
    android:text="Green"
    app:layout_constraintStart_toStartOf="@+id/b1"
    app:layout_constraintTop_toBottomOf="@+id/b1" />

<Button
    android:id="@+id/b3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="86dp"
    android:onClick="f3"
    android:text="Blue"
    app:layout_constraintEnd_toEndOf="@+id/b2"
    app:layout_constraintTop_toBottomOf="@+id/b2" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

.java

```
package com.example.color;

import static com.example.color.R.layout.activity_main;

import androidx.appcompat.app.AppCompatActivity;

import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
```

```

public class MainActivity extends AppCompatActivity {
    Button btn1,btn2,btn3;
    View v1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn1=findViewById(R.id.b1);
        btn2=findViewById(R.id.b2);
        btn3=findViewById(R.id.b3);
        v1=findViewById(R.id.l1);
    }
    public void f1(View v)
    {
        v1.setBackgroundColor(Color.RED);
    }
    public void f2(View v)
    {
        v1.setBackgroundColor(Color.GREEN);
    }
    public void f3(View v)
    {
        v1.setBackgroundColor(Color.BLUE);
    }
}

```

-----RADIO BUTTON-----
XML

```

<RadioGroup
    android:id="@+id/rg"
    android:layout_width="280dp"
    android:layout_height="236dp"
    android:layout_marginStart="42dp"
    android:layout_marginBottom="327dp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/t1">

    <RadioButton
        android:id="@+id/r1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Walk"
        android:textSize="16sp" />

    <RadioButton
        android:id="@+id/r2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Bike"
        android:textSize="16sp" />

```

```

<RadioButton
    android:id="@+id/r3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Car"
    android:textSize="16sp" />

<RadioButton
    android:id="@+id/r4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Bus"
    android:textSize="16sp" />

<RadioButton
    android:id="@+id/r5"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Train"
    android:textSize="16sp" />
</RadioGroup>

<TextView
    android:id="@+id/t1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="42dp"
    android:layout_marginTop="92dp"
    android:layout_marginBottom="34dp"
    android:text="Mode of Transport"
    android:textSize="24sp"
    app:layout_constraintBottom_toTopOf="@+id/rg"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="93dp"
    android:layout_marginEnd="92dp"
    android:onClick="sub"
    android:text="OK"
    app:layout_constraintEnd_toEndOf="@+id/rg"
    app:layout_constraintTop_toBottomOf="@+id/rg" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA

```
package com.example.radiobtn;
```

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

```

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

public class MainActivity extends AppCompatActivity {
    RadioGroup rg;
    Button btn;
    RadioButton rb;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn=findViewById(R.id.b1);
        rg=findViewById(R.id.rg);

    }
    public void sub(View v)
    {
        int rbid=rg.getCheckedRadioButtonId();
        if(rbid !=-1){
            rb=findViewById(rbid);
            String text=rb.getText().toString();
            Toast.makeText(MainActivity.this,"you selected option is
"+text,Toast.LENGTH_LONG).show();
        }
        else{
            Toast.makeText(MainActivity.this,"Nothing
Selected",Toast.LENGTH_SHORT).show();
        }
    }
}

```

-----CheckBox-----
XML

```

<TextView
    android:id="@+id/t1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="2dp"
    android:layout_marginBottom="28dp"
    android:text="Enter your Tech Skills"
    android:textAllCaps="true"
    android:textSize="24sp"
    app:layout_constraintBottom_toTopOf="@+id/c1"
    app:layout_constraintStart_toStartOf="@+id/c1" />

<CheckBox
    android:id="@+id/c1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"

```

```
android:layout_marginStart="60dp"
android:layout_marginBottom="8dp"
android:text="Java"
android:textSize="20sp"
app:layout_constraintBottom_toTopOf="@+id/c2"
app:layout_constraintStart_toStartOf="parent" />
```

```
<CheckBox
    android:id="@+id/c2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginBottom="20dp"
    android:text="CSS"
    android:textSize="20sp"
    app:layout_constraintBottom_toTopOf="@+id/c3"
    app:layout_constraintStart_toStartOf="@+id/c3" />
```

```
<CheckBox
    android:id="@+id/c3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="2dp"
    android:layout_marginBottom="17dp"
    android:text="Python"
    android:textSize="20sp"
    app:layout_constraintBottom_toTopOf="@+id/c4"
    app:layout_constraintStart_toStartOf="@+id/c4" />
```

```
<CheckBox
    android:id="@+id/c4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="64dp"
    android:layout_marginBottom="260dp"
    android:text="Java Script"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent" />
```

```
<CheckBox
    android:id="@+id/c5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="4dp"
    android:layout_marginTop="28dp"
    android:text="SQL"
    android:textSize="20sp"
    app:layout_constraintStart_toStartOf="@+id/c4"
    app:layout_constraintTop_toBottomOf="@+id/c4" />
```

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

```

        android:layout_marginStart="67dp"
        android:layout_marginTop="70dp"
        android:backgroundTint="#F44336"
        android:onClick="check"
        android:text="Submit"
        app:layout_constraintStart_toStartOf="@+id/c5"
        app:layout_constraintTop_toBottomOf="@+id/c5" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA

```

package com.example.checkbox;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    CheckBox c1,c2,c3,c4,c5;
    Button btn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        c1=findViewById(R.id.c1);
        c2=findViewById(R.id.c2);
        c3=findViewById(R.id.c3);
        c4=findViewById(R.id.c4);
        c5=findViewById(R.id.c5);
        btn=findViewById(R.id.btn);
    }
    public void check(View v)
    {
        String msg="";
        Boolean flag=true;

        if(c1.isChecked()||if(c2.isChecked()||if(c3.isChecked()||if(c4.is
Checked()||if(c5.isChecked()))
        {
            if(c1.isChecked())
                msg=msg+ " Java ";
            if(c2.isChecked())
                msg=msg+ " CSS ";
            if(c3.isChecked())
                msg=msg+ " Python ";
            if(c4.isChecked())
                msg=msg+ " JavaScript ";
            if(c5.isChecked())
                msg=msg+ " SQL ";
        }
    }
}

```

```

        else{
            Toast.makeText(MainActivity.this,msg +
"Nothing Selected",Toast.LENGTH_SHORT).show();
            flag=false;
        }
        if(flag==true)
            Toast.makeText(MainActivity.this,msg + "are
Selected",Toast.LENGTH_LONG).show();
    }
}

```

-----RATING BAR-----

XML

```

<ImageView
    android:id="@+id/iv1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:srcCompat="@drawable/bg" />

<RatingBar
    android:id="@+id/rb"
    android:layout_width="242dp"
    android:layout_height="59dp"
    android:layout_marginTop="107dp"
    android:layout_marginBottom="389dp"
    android:background="#B9708180"
    android:numStars="5"
    android:stepSize="0.5"
    app:layout_constraintBottom_toTopOf="@+id/ib"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<ImageButton
    android:id="@+id/ib"
    android:layout_width="132dp"
    android:layout_height="53dp"
    android:layout_marginBottom="27dp"
    android:onClick="star"
    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/rb"
    app:srcCompat="@drawable/share" />

```

</androidx.constraintlayout.widget.ConstraintLayout>

JAVA

```

package com.example.rating;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.ImageButton;
import android.widget.RatingBar;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    RatingBar rb;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        rb=findViewById(R.id.rb);
    }
    public void star(View ar)
    {
        float n= rb.getRating();
        Toast.makeText(this, "RATING===" +n, Toast.LENGTH_SHORT).show();
    }
}

```

-----EXPLICIT INTENT-----
 FIRST ACTIVITY

XML

```

<EditText
    android:id="@+id/e2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="13dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toBottomOf="@+id/t2"
    app:layout_constraintStart_toStartOf="@+id/e1" />

<TextView
    android:id="@+id/t3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="31dp"
    android:text="Date of Birth"
    android:textSize="20sp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/t2" />

<DatePicker
    android:id="@+id/date"

```



```
android:layout_width="296dp"
android:layout_height="314dp"
android:layout_centerHorizontal="true"
android:layout_marginStart="43dp"
android:layout_marginTop="19dp"
android:layout_marginEnd="43dp"
android:layout_marginBottom="19dp"
app:layout_constraintBottom_toTopOf="@+id/btn"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="1.0"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/t3"
app:layout_constraintVertical_bias="0.0" />
```

```
<TextView
    android:id="@+id/t1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="44dp"
    android:text="Name"
    android:textSize="20sp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
    android:id="@+id/e1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="30dp"
    android:layout_marginTop="26dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintStart_toEndOf="@+id/t1"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/t2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="16dp"
    android:layout_marginTop="114dp"
    android:text="Roll No."
    android:textSize="20sp"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<Button
    android:id="@+id/btn"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="34dp"
    android:layout_marginBottom="17dp"
    android:onClick="next"
```

```

        android:text="next"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

JAVA

package com.example.intent;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText e1,e2;
    DatePicker d;
    String name,rno,dob;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        e1=findViewById(R.id.e1);
        e2=findViewById(R.id.e2);
        d=findViewById(R.id.date);

    }
    public void next(View v) {
        name = e1.getText() + "";
        rno = e2.getText() + "";
        dob = d.getDayOfMonth() + "/" + (d.getMonth() + 1) + "/" +
d.getYear(); //month based on 0
        if ((name.length() != 0) && (rno.length() != 0)) {
            Intent i = new Intent(this, second.class);
            i.putExtra("rno", rno);
            i.putExtra("name", name);
            i.putExtra("dob", dob);
            startActivity(i);
        }
        else {
            Toast.makeText(this, "Fill the Details",
Toast.LENGTH_LONG).show();
        }
    }
}

```

SECOND ACTIVITY

XML

```
<TextView
    android:id="@+id/t4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="14dp"
    android:text="Aadhaar No."
    android:textSize="20sp"
    app:layout_constraintBaseline_toBaselineOf="@+id/e3"
    app:layout_constraintEnd_toStartOf="@+id/e3"
    app:layout_constraintHorizontal_chainStyle="packed"
    app:layout_constraintStart_toStartOf="parent" />
```

```
<EditText
    android:id="@+id/e3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="23dp"
    android:layout_marginBottom="34dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/e5"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/t4" />
```

```
<TextView
    android:id="@+id/t5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="24dp"
    android:layout_marginTop="174dp"
    android:layout_marginEnd="8dp"
    android:layout_marginBottom="188dp"
    android:text="Mobile No."
    android:textSize="20sp"
    app:layout_constraintBottom_toTopOf="@+id/tt"
    app:layout_constraintEnd_toStartOf="@+id/e5"
    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_marginStart="7dp"
    android:layout_marginTop="69dp"
    android:onClick="sub"
    android:text="Submit"
    app:layout_constraintStart_toStartOf="@+id/e5"
    app:layout_constraintTop_toBottomOf="@+id/e5" />
```

```
<TextView
    android:id="@+id/tt"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="55dp"
        android:layout_marginEnd="55dp"
        android:layout_marginBottom="96dp"
        android:fontFamily="sans-serif-medium"
        android:textSize="19sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/t5" />

```

```

<EditText
    android:id="@+id/e5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="24dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toEndOf="@+id/t5"
    app:layout_constraintTop_toTopOf="@+id/t5" />

```

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

JAVA

```

package com.example.intent;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.text.Editable;
import android.view.View;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;

public class second extends AppCompatActivity {
    EditText e3,e5;
    String adh;
    Editable phno;
    TextView tt;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_second);
        e3 = findViewById(R.id.e3);
        e5 = findViewById(R.id.e5);
        tt=findViewById(R.id.tt);
    }
    public void sub(View v) {
        adh = e3.getText() + " ";
    }
}

```

```

        phno = e5.getText();
        if ((adh.length() != 0) && (phno.length() != 0)) {
            Intent ii = getIntent();
            String s1 = ii.getSerializableExtra("name") + "";
            String s2 = ii.getSerializableExtra("rno") + "";
            String s3 = ii.getSerializableExtra("dob") + "";
            tt.setText("NAME : " + s1 + "\n" + "ROLLNO : " + s2 + "\n" +
"DOB : " + s3 + "\n" + "AADHAAR NO : " + adh + "\n" + "MOBILE NO : " +
phno + "\n");
        }
        else {
            Toast.makeText(this, "Fill the Details",
Toast.LENGTH_LONG).show();
        }
    }
}

```

-----IMPLICIT INTENT-----
XML

```

<EditText
    android:id="@+id/et"
    android:layout_width="277dp"
    android:layout_height="47dp"
    android:layout_marginStart="64dp"
    android:layout_marginTop="140dp"
    android:layout_marginBottom="102dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintBottom_toTopOf="@+id/ib"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<ImageButton
    android:id="@+id/ib"
    android:layout_width="110dp"
    android:layout_height="94dp"
    android:layout_marginBottom="336dp"
    android:onClick="click"
    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/et"
    app:srcCompat="@drawable/icon" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA

```

package com.example.impintent;

import androidx.appcompat.app.AppCompatActivity;

```

```

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.EditText;
import android.widget.ImageButton;

public class MainActivity extends AppCompatActivity {
    EditText et;
    ImageButton bt;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et=findViewById(R.id.et);
        bt=findViewById(R.id.ib);
    }
    public void click(View v)
    {
        String url=et.getText().toString();
        Intent i=new Intent(Intent.ACTION_VIEW);
        i.setData(Uri.parse(url));
        startActivity(i);
    }
}

-----Lifecycle-----
JAVA

package com.example.lifecycle;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    protected void onStart() {
        super.onStart();
        Log.d("Activity Lifecycle","onStart invoked");
    }
    protected void onResume() {
        super.onResume();
        Log.d("Activity Lifecycle","onResume invoked");
    }
    protected void onPause() {
        super.onPause();
        Log.d("Activity Lifecycle","onPause invoked");
    }
}

```

```

    }
    protected void onStop() {
        super.onStop();
        Log.d("Activity Lifecycle", "onStop invoked");
    }
    protected void onRestart() {
        super.onRestart();
        Log.d("Activity Lifecycle", "onRestart invoked");
    }
    protected void onDestroy() {
        super.onDestroy();
        Log.d("Activity Lifecycle", "onDestroy invoked");
    }
}

-----TOGGLE BUTTON-----
XML

```

```

<?xml version="1.0" encoding="utf-8"?>
    <EditText
        android:id="@+id/et"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="166dp"
        android:ems="10"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <ToggleButton
        android:id="@+id/tg"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="96dp"
        android:onClick="click"
        android:textOff="lower"
        android:textOn="upper"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/et" />

    <TextView
        android:id="@+id/op"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="42dp"
        android:layout_marginEnd="22dp"
        android:textSize="24sp"
        app:layout_constraintEnd_toEndOf="@+id/tv"
        app:layout_constraintTop_toBottomOf="@+id/tv" />

    <TextView
        android:id="@+id/tv"

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="43dp"
        android:layout_marginTop="59dp"
        android:text="Output  :"
        android:textSize="23sp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/tg" />

```

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

JAVA

```

package com.example.toggle;

import androidx.appcompat.app.AppCompatActivity;

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

import java.util.Locale;

public class MainActivity extends AppCompatActivity {
    EditText et;
    ToggleButton tg;
    TextView op;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et = findViewById(R.id.et);
        tg = findViewById(R.id.tg);
        op = findViewById(R.id.op);
    }
    public void click(View v) {
        String s = et.getText() + "";
        String ss = tg.getText() + "";
        if (ss.equals("upper"))
            op.setText(s.toLowerCase(Locale.ROOT));
        else
            op.setText(s.toUpperCase(Locale.ROOT));
    }
}

```

-----MENU BAR-----

M1.XML

```

<menu>
    <item

```



```

        android:id="@+id/i1"
        android:title="My Account" />
    <item
        android:id="@+id/i2"
        android:title="Wishlist" />
    <item
        android:id="@+id/i3"
        android:title="My Cart" />
    <item
        android:id="@+id/i4"
        android:title="Exit" />
</menu>

```

JAVA

```

package com.example.menu;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public boolean onCreateOptionsMenu(Menu m)
    {
        getMenuInflater().inflate(R.menu.m1, m);
        return true;
    }
    public boolean onOptionsItemSelected(MenuItem t){
        switch (t.getItemId())
        {
            case R.id.i1:
                Intent i=new Intent(this,second.class);
                startActivity(i);
                break;
            case R.id.i2:
                Toast.makeText(this, "Selected : " +t.getTitle(),
Toast.LENGTH_SHORT).show();
                break;
            case R.id.i3:
                Toast.makeText(this, "Selected : " +t.getTitle(),
Toast.LENGTH_SHORT).show();
                break;
            case R.id.i4:
                System.exit(0);
                break;
        }
    }
}

```

```

        }
        return true;
    }
}

```

-----SPINNER-----
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"
    android:background="#70BA9A"
    tools:context=".MainActivity">

    <Spinner
        android:id="@+id/sp"
        android:layout_width="0dp"
        android:layout_height="54dp"
        android:layout_marginStart="45dp"
        android:layout_marginTop="261dp"
        android:layout_marginEnd="45dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

```

JAVA

```

package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemClickListener{
    Spinner sp;
    String s[]={"Select a
name", "Anto", "Prakash", "Mathan", "Nagarjun", "Ajith"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        sp = findViewById(R.id.sp);
    }
}

```

```

        ArrayAdapter<String> ad = new ArrayAdapter<String>(this,
android.R.layout.simple_spinner_item, s);
        sp.setAdapter(ad);
        sp.setOnItemSelectedListener(this);
    }

    public void onItemSelected(AdapterView<?> adapterView, View view, int
i, long l) {
        Toast.makeText(this,s[i] + " Selected",
Toast.LENGTH_SHORT).show();
    }

    public void onNothingSelected(AdapterView<?> adapterView) {

    }
}

```

-----Internal File Storage-----

```

JAVA

public class MainActivity extends AppCompatActivity {
    EditText et;
    TextView tv;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et=findViewById(R.id.et);
        tv=findViewById(R.id.tv);
    }
    public void fopen(View v){
        try {
            FileOutputStream fo = openFileOutput("pop.txt", MODE_APPEND);
            String s = et.getText()+" ";
            byte b[] = s.getBytes(StandardCharsets.UTF_8);
            fo.write(b);
            Toast.makeText(this, "File Written",
Toast.LENGTH_SHORT).show();
            fo.close();
        }catch (Exception e){}
    }
    public void fread(View v){
        try{
            StringBuffer sb=new StringBuffer();
            FileInputStream fi =openFileInput("pop.txt");
            while(true){
                byte b= (byte) fi.read();
                if(b==-1)
                    break;
                sb.append((char)b);
            }
            tv.setText(sb);
            //setTitle(sb);
        }
    }
}

```

```

        fi.close();
    }catch(Exception e){}
}

```

XML

```

<Button
    android:id="@+id/btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="276dp"
    android:onClick="fopen"
    android:text="File Creation"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.154"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<Button
    android:id="@+id/btn2"
    android:layout_width="116dp"
    android:layout_height="52dp"
    android:layout_marginEnd="44dp"
    android:layout_marginBottom="404dp"
    android:onClick="fread"
    android:text="File Read"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent" />

<EditText
    android:id="@+id/et"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="87dp"
    android:layout_marginTop="120dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/tv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="160dp"
    android:layout_marginBottom="232dp"
    android:textSize="24sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

-----SHARED PREFERENCE-----

JAVA

```
public class MainActivity extends AppCompatActivity {
    EditText et1,et2;
    Button b1;
    String s1,s2,s3,s4;
    TextView st;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        setTitle("Shared Preferences ");
        et1=findViewById(R.id.et1);
        et2=findViewById(R.id.et2);
        b1=findViewById(R.id.b1);
        st=findViewById(R.id.st);
        SharedPreferences sp =
getSharedPreferences("Data.dat",MODE_PRIVATE);
        s1 = sp.getString("un",null);
        s2 = sp.getString("pw",null);
        if((s1==null)&&(s2==null)){
            Toast.makeText(this,"New user...!!!!",
Toast.LENGTH_LONG).show();
        }
        else {
            et1.setText(s1);
            et2.setText(s2);
        }
    }

    public void f1(View v){
        SharedPreferences s =
getSharedPreferences("Data.dat",MODE_PRIVATE);
        SharedPreferences.Editor ed = s.edit();
        s3=et1.getText().toString();
        s4=et2.getText().toString();
        ed.putString("un",s3);
        ed.putString("pw",s4);
        ed.commit();
        Intent i =new Intent(this,login.class);
        startActivity(i);
    }
}
```

xml

```
<EditText
    android:id="@+id/et1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="68dp"
    android:layout_marginTop="136dp"
    android:ems="10"
    android:hint="user__name"
    android:inputType="textPersonName"
```

```

        android:textColorHint="#000000"
        android:textSize="20sp"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

<EditText
    android:id="@+id/et2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="32dp"
    android:ems="10"
    android:hint="password"
    android:inputType="textPassword"
    android:textColorHint="#000000"
    android:textSize="20sp"
    app:layout_constraintStart_toStartOf="@+id/et1"
    app:layout_constraintTop_toBottomOf="@+id/et1" />

<TextView
    android:id="@+id/st"
    android:layout_width="0dp"
    android:layout_height="52dp"
    android:layout_marginStart="4dp"
    android:layout_marginBottom="240dp"
    android:textSize="16sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintStart_toStartOf="@+id/b1" />

<Button
    android:id="@+id/b1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="56dp"
    android:layout_marginEnd="64dp"
    android:onClick="f1"
    android:text=" log in"
    app:layout_constraintEnd_toEndOf="@+id/et2"
    app:layout_constraintTop_toBottomOf="@+id/et2" />
</androidx.constraintlayout.widget.ConstraintLayout>

-----AlertDialog-----
JAVA

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void onBackPressed() {
        AlertDialog.Builder al=new AlertDialog.Builder(this);
        al.setTitle("Exit..");
        al.setIcon(R.drawable.exit);

```

```

        al.setMessage("Do you want to Close the App ?");
        al.setPositiveButton("Yes", new DialogInterface.OnClickListener()
        {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                finish();
            }
        });
        al.setNegativeButton("No", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialogInterface, int i) {
                dialogInterface.cancel();
            }
        });
        AlertDialog ag=al.create();
        ag.show();
    }
}

```

XML

```

<TextView
    android:id="@+id/textView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="160dp"
    android:gravity="center_horizontal"
    android:text="Press The Back Button of Your Phone."
    android:textSize="30dp"
    android:textStyle="bold"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

-----Fragment-----

main.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:layout_height="match_parent"
    tools:context=".MainActivity">

    <fragment
        android:id="@+id/fragmentContainerView"
        android:name="com.example.fargument.frag1"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_weight="1" />

    <fragment
        android:id="@+id/fragmentContainerView2"
        android:name="com.example.fargument.frag2"

```

```
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_weight="1" />
</LinearLayout>
```

fragment.xml

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout 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=".frag1">

    <!-- TODO: Update blank fragment layout -->
    <TextView
        android:id="@+id/fl1"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:background="#63A4C3"
        android:text="Hello World" />

</FrameLayout>
```
