Name:Sandra PM
Roll No:34
RMCA B

Aim:
1.Design a login form with username and password using linear layout and toast valid Credentials.

```xml
<?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" android:paddingLeft=
"@dimen/activity_horizontal_margin"
  android:paddingRight = "@dimen/activity_horizontal_margin"
  android:paddingTop = "@dimen/activity_vertical_margin"
  android:paddingBottom = "@dimen/activity_vertical_margin" 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 = "Tutorials point"
    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"
```

```xml
    android:focusable = "true"
    android:textColorHighlight = "#ff7eff15"
    android:textColorHint = "#ffff25e6"
    android:layout_marginTop = "46dp"
    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:src="@drawable/abc"
    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" />

<TextViewandroid: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>
```

```java
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;
```

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

    b1 = (Button)findViewById(R.id.button);
    ed1 = (EditText)findViewById(R.id.editText);
    ed2 = (EditText)findViewById(R.id.editText2);

    b2 = (Button)findViewById(R.id.button2);
    tx1 = (TextView)findViewById(R.id.textView3);
    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();
        }
```
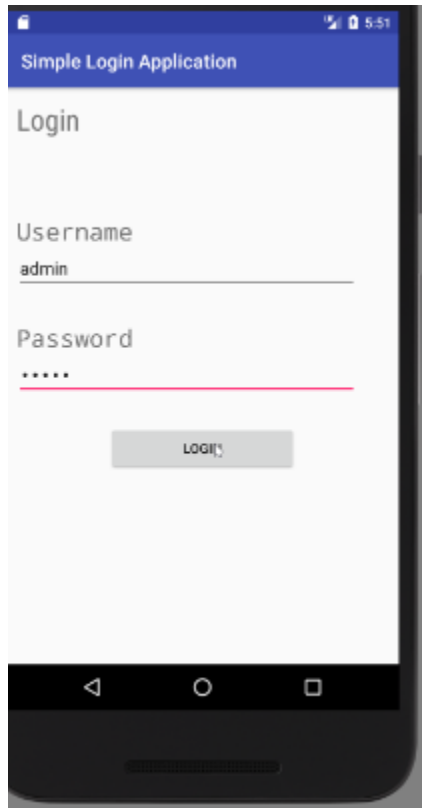
```
        });
    }
}
```

output

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2.write a program that demonstrate Activity lifecycle.

Program

lifecycle

```
package com.example.lifecycle1;
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);
}
@Override
```

```java
protected void onStart() {
super.onStart();
Log.d("lifecycle","on start invoked");
}
@Override
protected void onResume() {
super.onResume();
Log.d("lifecycle","on resume invoked");
}
@Override
protected void onPause() {
super.onPause();
Log.d("lifecycle","on pause invoked");
}
@Override
protected void onDestroy() {
super.onDestroy();
Log.d("lifecycle","on destroy invoked");}
}
```

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3.implement basic arithmetic operations in simple calculator.

<u>Program</u>

.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="@android:drawable/divider_horizontal_dim_dark"
android:backgroundTint="@android:color/holo_blue_light"
android:foreground="@android:drawable/list_selector_background"
tools:context=".MainActivity">

```xml
<Button
android:id="@+id/button"
android:layout_width="64dp"
android:layout_height="42dp"
android:text="1"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.1"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.658" />
<Button
android:id="@+id/button4"
android:layout_width="68dp"
android:layout_height="42dp"
android:text="2"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.525"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.652" />
<Button
android:id="@+id/button3"
android:layout_width="62dp"
android:layout_height="40dp"
android:text="3"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"

app:layout_constraintHorizontal_bias="0.943"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.647" />
<Button
android:id="@+id/button5"
android:layout_width="56dp"
android:layout_height="40dp"
android:text="4"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.109"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
```

app:layout_constraintVertical_bias="0.778" />
<Button
android:id="@+id/button6"
android:layout_width="67dp"
android:layout_height="41dp"
android:text="5"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.518"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.772" />
<Button
android:id="@+id/button7"
android:layout_width="62dp"
android:layout_height="39dp"
android:text="6"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.943"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.764" />
<Button
android:id="@+id/button8"
android:layout_width="61dp"
android:layout_height="34dp"
android:text="7"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.112"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.863" />
<Button
android:id="@+id/button9"
android:layout_width="65dp"
android:layout_height="36dp"

android:text="8"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.531"
app:layout_constraintStart_toStartOf="parent"

```
app:layout_constraintTop_toTopOf=&quot;parent&quot;
app:layout_constraintVertical_bias=&quot;0.868&quot; /&gt;
&lt;Button
android:id=&quot;@+id/button10&quot;
android:layout_width=&quot;64dp&quot;
android:layout_height=&quot;37dp&quot;
android:text=&quot;9&quot;
app:layout_constraintBottom_toBottomOf=&quot;parent&quot;
app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:layout_constraintHorizontal_bias=&quot;0.977&quot;
app:layout_constraintStart_toStartOf=&quot;parent&quot;
app:layout_constraintTop_toTopOf=&quot;parent&quot;
app:layout_constraintVertical_bias=&quot;0.873&quot; /&gt;
&lt;Button
android:id=&quot;@+id/button11&quot;
android:layout_width=&quot;65dp&quot;
android:layout_height=&quot;40dp&quot;
android:text=&quot;0&quot;
app:layout_constraintBottom_toBottomOf=&quot;parent&quot;
app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:layout_constraintHorizontal_bias=&quot;0.536&quot;
app:layout_constraintStart_toStartOf=&quot;parent&quot;
app:layout_constraintTop_toTopOf=&quot;parent&quot;
app:layout_constraintVertical_bias=&quot;1.0&quot; /&gt;
&lt;Button
android:id=&quot;@+id/button12&quot;
android:layout_width=&quot;79dp&quot;
android:layout_height=&quot;41dp&quot;
android:text=&quot;+&quot;
app:layout_constraintBottom_toBottomOf=&quot;parent&quot;
app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:layout_constraintHorizontal_bias=&quot;0.547&quot;
app:layout_constraintStart_toStartOf=&quot;parent&quot;
app:layout_constraintTop_toTopOf=&quot;parent&quot;
app:layout_constraintVertical_bias=&quot;0.309&quot; /&gt;
&lt;Button
android:id=&quot;@+id/button13&quot;
android:layout_width=&quot;39dp&quot;
android:layout_height=&quot;74dp&quot;
android:text=&quot;*&quot;
app:layout_constraintBottom_toBottomOf=&quot;parent&quot;
app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:layout_constraintHorizontal_bias=&quot;0.854&quot;
app:layout_constraintStart_toStartOf=&quot;parent&quot;
```

```
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.43" />
<Button

android:id="@+id/button14"
android:layout_width="39dp"
android:layout_height="71dp"
android:text="/"
app:layout_constraintBottom_toBottomOf="@+id/button11"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.211"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.436" />
<Button
android:id="@+id/button15"
android:layout_width="71dp"
android:layout_height="39dp"
android:text="_"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.55"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/button18"
app:layout_constraintVertical_bias="0.0" />
<TextView
android:id="@+id/textView4"
android:layout_width="225dp"
android:layout_height="96dp"
android:background="#777368"
android:text="00.0"
android:textColor="@color/white"
android:textSize="24sp"
app:barrierMargin="@dimen/material_emphasis_disabled_background"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.538"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.031" />
<Button
android:id="@+id/button16"
android:layout_width="65dp"
android:layout_height="42dp"
```

```
android:text=&quot;=&quot;
app:layout_constraintBottom_toBottomOf=&quot;parent&quot;
app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:layout_constraintHorizontal_bias=&quot;0.959&quot;
app:layout_constraintStart_toStartOf=&quot;parent&quot;
app:layout_constraintTop_toTopOf=&quot;parent&quot;
app:layout_constraintVertical_bias=&quot;0.997&quot; /&gt;
&lt;Button
android:id=&quot;@+id/button18&quot;
android:layout_width=&quot;64dp&quot;
android:layout_height=&quot;42dp&quot;
android:text=&quot;AC&quot;
app:layout_constraintBottom_toBottomOf=&quot;parent&quot;

app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:layout_constraintHorizontal_bias=&quot;0.535&quot;
app:layout_constraintStart_toStartOf=&quot;parent&quot;
app:layout_constraintTop_toTopOf=&quot;parent&quot;
app:layout_constraintVertical_bias=&quot;0.426&quot; /&gt;
&lt;Button
android:id=&quot;@+id/button19&quot;
android:layout_width=&quot;64dp&quot;
android:layout_height=&quot;45dp&quot;
android:text=&quot;.&quot;
app:layout_constraintBottom_toBottomOf=&quot;parent&quot;
app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:layout_constraintHorizontal_bias=&quot;0.114&quot;
app:layout_constraintStart_toStartOf=&quot;parent&quot;
app:layout_constraintTop_toTopOf=&quot;parent&quot;
app:layout_constraintVertical_bias=&quot;1.0&quot; /&gt;
&lt;ImageView
android:id=&quot;@+id/imageView2&quot;
android:layout_width=&quot;wrap_content&quot;
android:layout_height=&quot;wrap_content&quot;
android:background=&quot;@color/cardview_dark_background&quot;
app:layout_constraintEnd_toEndOf=&quot;parent&quot;
app:srcCompat=&quot;@android:drawable/divider_horizontal_dim_dark&quot;
tools:layout_editor_absoluteY=&quot;39dp&quot; /&gt;
&lt;/androidx.constraintlayout.widget.ConstraintLayout&gt;

.java
package com.example.registration;
import android.os.Bundle;
import android.view.View;
```

```java
import android.widget.Toast;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
EditText num1;
EditText num2;
TextView answer;
Button btn;

double num3,num4,sum;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
num1=(EditText)findViewById(R.id.num1);
num2=(EditText)findViewById(R.id.num2);
answer=(TextView) findViewById(R.id.showsum);
btn=(Button)findViewById(R.id.btn1);
btn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
}btn.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View ) {
String value1=num1.getText().toString();
String value2=num2.getText().toString();
int a = Integer.parseInt(value1);
int b = Integer.parseInt(value2);
int sum = a+b;
answer.setText(Integer.toString(sum));
Toast.makeText(getApplicationContext(), String.valueOf(sum),
Toast.LENGTH_LONG).show();
}
});
}
}
String.valueOf(sum), Toast.LENGTH_LONG).show();
}
});
}
}
```
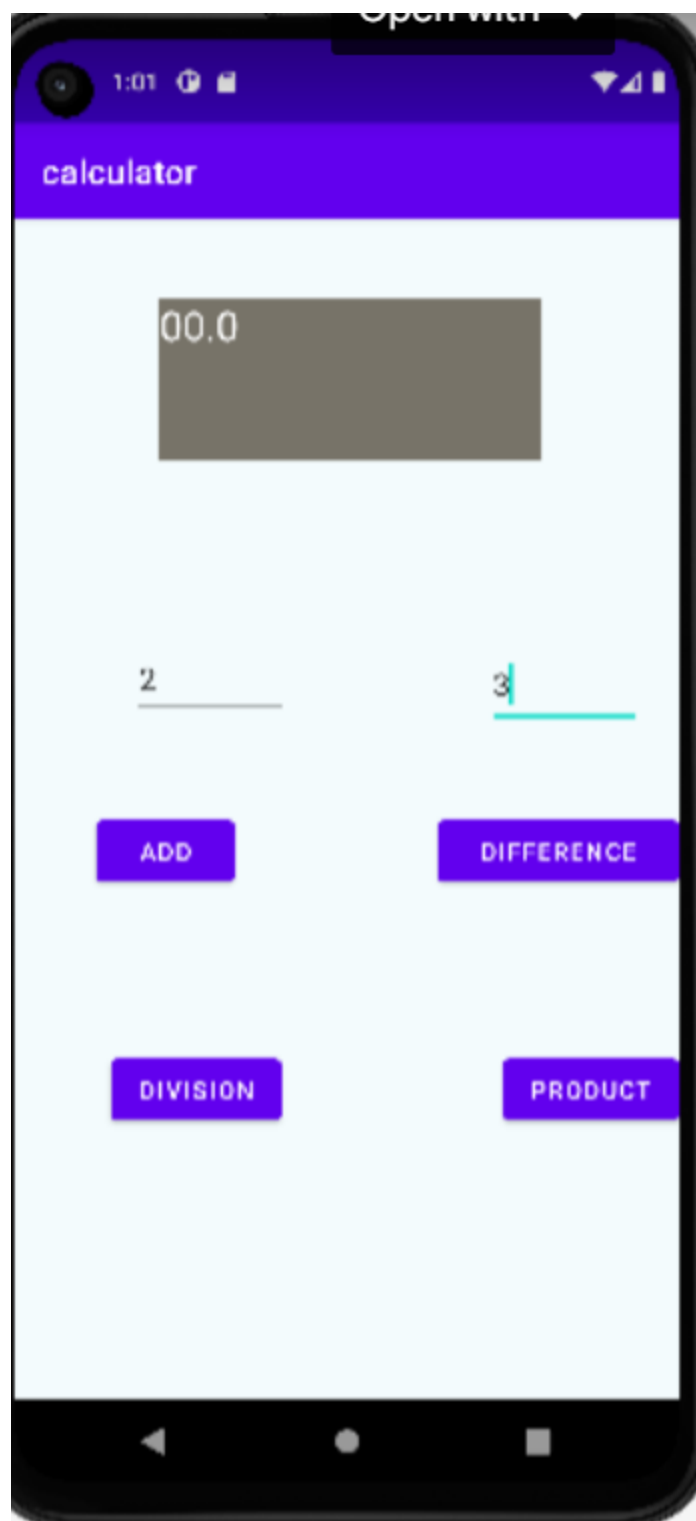
```
	}
}
```

Output

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Roll No:34

RMCA B

4.implements validations on various UI components

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

<LinearLayout

    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"

    android:orientation="vertical"

    tools:context=".MainActivity"

    tools:ignore="HardcodedText">

    <TextView

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_gravity="center"

        android:textSize="20dp"

        android:layout_marginTop="20dp"

        android:text="Form Validation"/>

    <EditText
```

```xml
    android:id="@+id/firstName"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_marginStart="16dp"

    android:layout_marginTop="16dp"

    android:layout_marginEnd="16dp"

    android:hint="First Name"

    android:inputType="text" />
<EditText

    android:id="@+id/lastName"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"

    android:layout_marginStart="16dp"

    android:layout_marginTop="16dp"

    android:layout_marginEnd="16dp"

    android:hint="Last Name"

    android:inputType="text" />
<EditText

    android:id="@+id/email"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
```

```xml
        android:layout_marginStart="16dp"

        android:layout_marginTop="16dp"

        android:layout_marginEnd="16dp"

        android:hint="Email"

        android:inputType="textEmailAddress" />
    <EditText

        android:id="@+id/password"

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginStart="16dp"

        android:layout_marginTop="16dp"

        android:layout_marginEnd="16dp"

        android:hint="Password"

        android:inputType="textPassword" />
    <LinearLayout

        android:layout_width="match_parent"

        android:layout_height="wrap_content"

        android:layout_marginTop="8dp"

        android:gravity="end"

        android:orientation="horizontal">

        <Button
```

```xml
        android:id="@+id/cancelButton"

        style="@style/Widget.AppCompat.Button.Borderless"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginEnd="180dp"

        android:text="CANCEL"

        android:textColor="@color/black" />
    <Button

        android:id="@+id/proceedButton"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginEnd="20dp"

        android:backgroundTint="@color/black"

        android:text="PROCEED"

        android:textColor="@android:color/white"/>
    </LinearLayout>
</LinearLayout>
```

Java file

```java
package com.example.program4;

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

```java
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 {

    Button bCancel, bProceed;

    EditText etFirstName, etLastName, etEmail, etPassword;

    boolean isAllFieldsChecked = false;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_main);

        bProceed = findViewById(R.id.proceedButton);

        bCancel = findViewById(R.id.cancelButton);

        etFirstName = findViewById(R.id.firstName);

        etLastName = findViewById(R.id.lastName);

        etEmail = findViewById(R.id.email);

        etPassword = findViewById(R.id.password);

        bProceed.setOnClickListener(new View.OnClickListener() {

            @Override
```

```java
        public void onClick(View v) {

            isAllFieldsChecked = CheckAllFields();

            if (isAllFieldsChecked) {

                Intent i = new Intent(MainActivity.this, MainActivity.class);

                startActivity(i);

            }

        }

    });

    bCancel.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

            MainActivity.this.finish();

            System.exit(0);

        }

    });

}

private boolean CheckAllFields() {

    if (etFirstName.length() == 0) {

        etFirstName.setError("This field is required");

        return false;

    }
```

```java
    if (etLastName.length() == 0) {

        etLastName.setError("This field is required");

        return false;

    }

    if (etEmail.length() == 0) {

        etEmail.setError("Email is required");

        return false;

    }

    if (etPassword.length() == 0) {

        etPassword.setError("Password is required");

        return false;

    } else if (etPassword.length() < 8) {

        etPassword.setError("Password must be minimum 8 characters");

        return false;

    }

    return true;

  }

}
```

program4

Form Validation

sandra

PM

san@gmail.com

...   🛑

CANCEL

Password must be minimum 8
characters   PROCEED

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CO2

1.Design a registration activity and store registration details in local memory phone
Using intents and shared preference.

Intent
```
package com.example.intent;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
Button butt ;
TextView text;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
butt=findViewById(R.id.B1);
butt.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Intent i=new Intent (MainActivity.this,secondactivity.class);
startActivity(i);
}
});
}
}
```
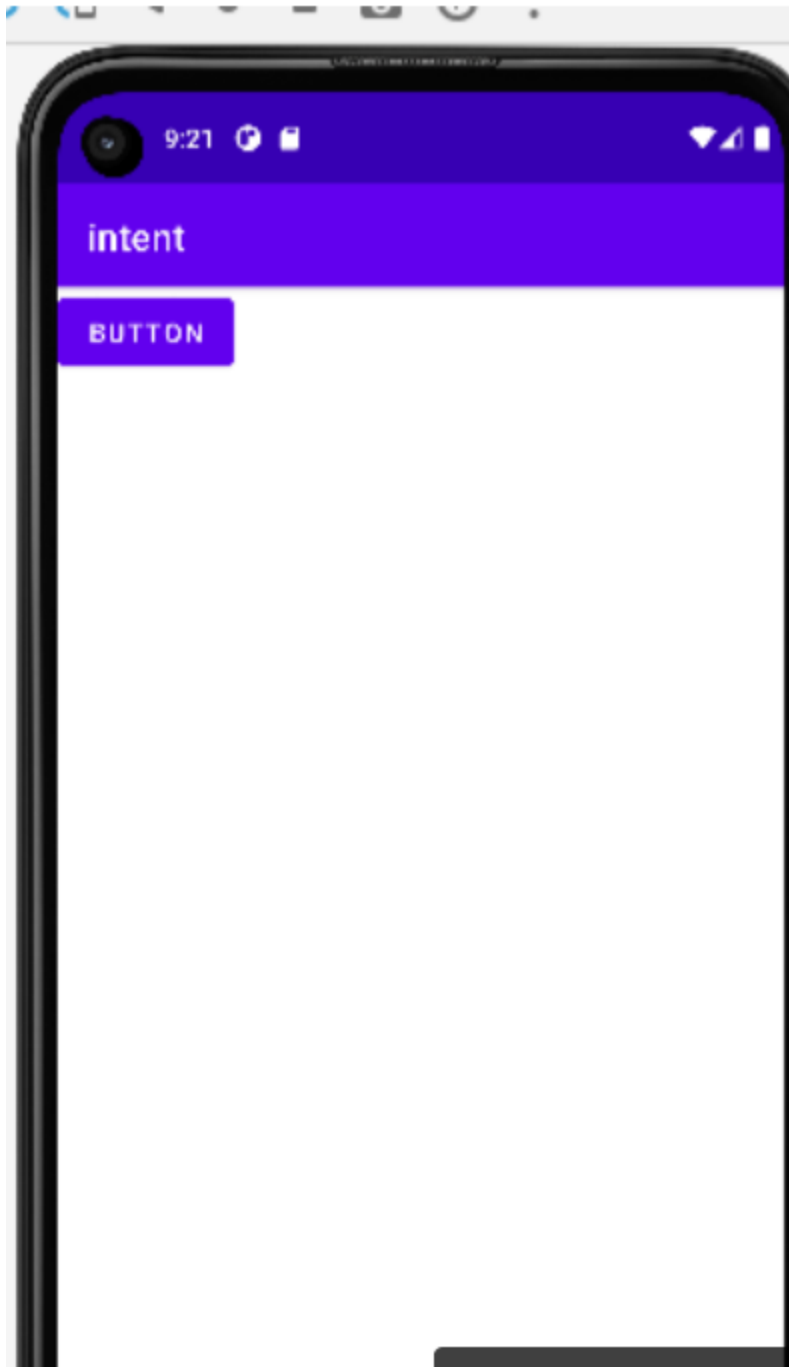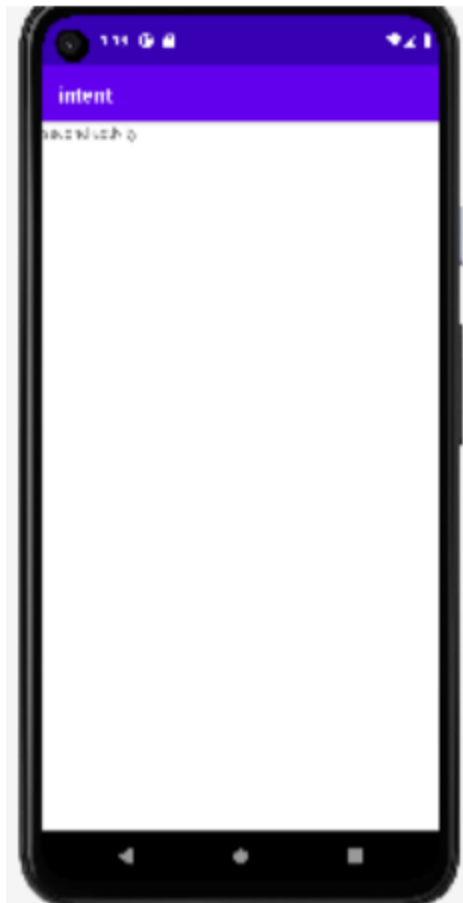Second activity
```
package com.example.intent;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
public class secondactivity extends AppCompatActivity {
TextView secondactivity;
@Override
```

```
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_secondactivity);
}
}
```

Name:Sandra PM
Roll No:34
RMCA B

3.create a facebook using RelativeLayout; set properties using .xml fileebook
Facebook page
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:textAlignment="center"
tools:context=".MainActivity">
<RelativeLayout
android:layout_width="443dp"
android:layout_height="733dp"
android:background="@drawable/background"
tools:layout_editor_absoluteX="1dp"
tools:layout_editor_absoluteY="1dp">

<EditText
android:id="@+id/editTextTextPersonName3"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="40dp"
android:layout_marginBottom="585dp"
android:ems="10"
android:inputType="textPersonName"
android:text="Facebook"
android:textAlignment="center"
android:textSize="60sp" />
<EditText
android:id="@+id/editTextTextPersonName5"
android:layout_width="206dp"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"

android:layout_alignParentBottom="true"
android:layout_marginEnd="237dp"
android:layout_marginBottom="410dp"
android:ems="10"
android:inputType="textPersonName"
android:text="username"
android:textColor="@color/white"
android:textSize="34sp" />
<EditText
android:id="@+id/editTextTextPersonName6"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="228dp"
android:layout_marginBottom="328dp"
android:ems="10"
android:inputType="textPersonName"
android:text="password"
android:textColor="@color/white"
android:textSize="34sp" />
<EditText
android:id="@+id/editTextTextPassword"
android:layout_width="194dp"
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="6dp"
android:layout_marginBottom="334dp"
android:ems="10"
android:inputType="textPassword" />
<Button
android:id="@+id/button"
android:layout_width="133dp"

android:layout_height="75dp"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="149dp"
android:layout_marginBottom="144dp"
android:text="Login" />
<EditText
android:id="@+id/editTextTextPersonName7"
android:layout_width="196dp"

```
android:layout_height="wrap_content"
android:layout_alignParentEnd="true"
android:layout_alignParentBottom="true"
android:layout_marginEnd="4dp"
android:layout_marginBottom="417dp"
android:ems="10"
android:inputType="textPersonName" />
</RelativeLayout>
</androidx.constraintlayout.widget.ConstraintLayout>
```

.java
```java
import android.view.Menu;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Log.d("lifecycle","on create invoked");
}
@Override
protected void onPause() {
super.onPause();
Log.d("lifecycle","on pause invoked");
}
}
```

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4. Develop an application that toggles image using FrameLayout

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1. ImpleExceptionment Adapters and perform exception handling

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">
<ListView
android:id="@+id/list"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:layout_alignParentStart="true"
android:layout_marginStart="0dp">
</ListView>
</RelativeLayout>

Main_activity.java

package com.example.exeception;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Toast;
import java.util.ArrayList;
import java.util.List;
public class MainActivity extends AppCompatActivity {
List<String> list=new ArrayList();
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
list.add("ITEM 1");

```
list.add("ITEM 2");
list.add("ITEM 3");
list.add("ITEM 4");
for (int i=0;i<5;i++){
try {
list.get(i);
}
catch(Exception e) {

Toast.makeText(this, "Exception caught",
Toast.LENGTH_LONG).show();
}
}
}
}
output
```

2. Implement Intent to navigate between multiple activities

3. Develop application that works with explicit intents

4. Implement Options Menu to navigate to activities

5. Develop an application that uses ArrayAdapter with ListView.

Main_activity.java

```java
package com.example.listview;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
ListView myLisView=findViewById(R.id.list);
String items[]=new String[]{"1st item","2nd item","3rd item"};
ArrayAdapter<String>myAdapter=new
ArrayAdapter<String>(MainActivity.this,android.R.layout.simple_list_item_1,it
ems);
myLisView.setAdapter(myAdapter);
}
}
```
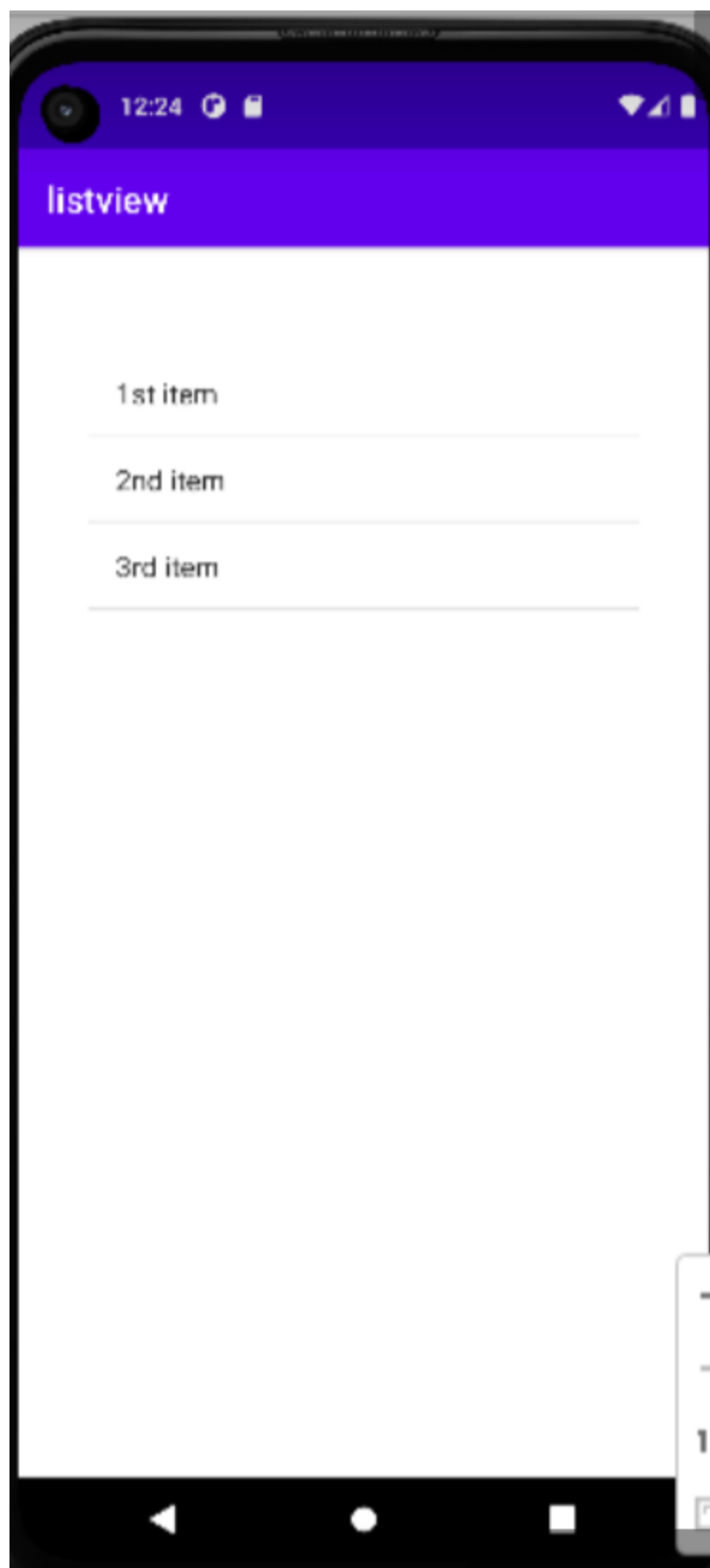
activity.xml

```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">
<ListView
```

android:id="@+id/list"
android:layout_width="408dp"
android:layout_height="718dp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
</androidx.constraintlayout.widget.
ConstraintLayout>app:layout_constraintVertical_bias="">

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