INDEX

CONCATINATION OF TWO STRINGS

Aim: To create an android application to perform concatination of two strings

Program

Androidmanifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.CombineText"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

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"
        android:background="#A1D1FB"
        tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:fontFamily="serif"
        android:text="MIX AND DISPLAY"
        android:textSize="16sp"
        app:layout_constraintBottom_toBottomOf="parent"
```

```xml
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.067" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TEXT 1:"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TEXT 2:"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>
    <EditText
        android:id="@+id/edtext1"
        android:layout_width="wrap_content"
        android:layout_height="50dp"
        android:ems="10"
        android:inputType="text"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>
    <EditText
        android:id="@+id/edtext2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:inputType="text"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"/>
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/btn1_click"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.366" />
    <EditText
        android:id="@+id/output"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
```

```
        android:inputType="text"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button"
        app:layout_constraintVertical_bias="0.115" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Main_Activity.java

```java
package com.example.combinetext;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
public class MainActivity extends AppCompatActivity {
    EditText text1,text2;
    TextView out;
    Button btn1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btn1 = findViewById(R.id.button);
        btn1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View View) {
                text1 = findViewById(R.id.edtext1);
                text2 = findViewById(R.id.edtext2);
                out = findViewById(R.id.output);
                String val1 = text1.getText().toString();
                String val2 = text2.getText().toString();
                String val3 = val1 +" "+ val2;
                out.setText(val3);
            }
        });
    }
}
```

Result
Created android application to concatinate two strings successfully

CALCULATOR

AIM:create an android application to perfrom basic mathematical operations

Program

Androidmanifest.xml

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools">
   <application
      android:icon="@mipmap/ic_launcher"
      android:label="@string/app_name"
      android:roundIcon="@mipmap/ic_launcher_round"
      android:supportsRtl="true"
      android:theme="@style/Theme.CALCULATOR">
      <activity
         android:name=".MainActivity"
         android:exported="true">
         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
      </activity>
   </application>
</manifest>
```

Activity_main.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="#091010"
    tools:context=".MainActivity">
  <TextView
     android:id="@+id/textView2"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:text="CALCULATOR"
     android:textColor="#15ED06"
     android:textSize="20sp"
     app:layout_constraintBottom_toBottomOf="parent"
     app:layout_constraintEnd_toEndOf="parent"
     app:layout_constraintStart_toStartOf="parent"
     app:layout_constraintTop_toTopOf="parent"/>
  <TextView
     android:id="@+id/textView"
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:layout_marginTop="40dp"
     android:text="ENTER NUMBER"
```

```xml
            android:textColor="#06ED89"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/textView2"/>
        <TextView
            android:id="@+id/textView3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="ENTER NUMBER"
            android:textColor="#05F148"
            android:textColorHint="#A32424"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/textView" />
        <EditText
            android:id="@+id/num1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="12dp"
            android:ems="10"
            android:gravity="center"
            android:inputType="text"
            android:textColor="#ED0707"
            android:textStyle="bold"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/textView2" />
        <EditText
            android:id="@+id/num2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:ems="10"
            android:gravity="center"
            android:inputType="text"
            android:textColor="#ED0404"
            android:textStyle="bold"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/num1" />
        <Button
            android:id="@+id/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="0.049"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/num2"
            app:layout_constraintVertical_bias="0.08" />
        <Button
            android:id="@+id/sub"
            android:layout_width="wrap_content"
```

```xml
            android:layout_height="wrap_content"
            android:text="SUB"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/num2" />
    <Button
            android:id="@+id/mul"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="MUL"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/num2"/>
    <Button
            android:id="@+id/div"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="DIV"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/num2"
            app:layout_constraintVertical_bias="0.08" />
    <EditText
            android:id="@+id/output"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:ems="10"
            android:gravity="center"
            android:hint="RESULT"
            android:inputType="text"
            android:textColor="#DA0808"
            android:textColorHint="#F30B0B"
            android:textStyle="bold"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/mul" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Main_Activity.java

```java
package com.example.calculator;
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 {
    EditText number1;
    EditText number2;
    EditText out;
    Button adds;
    Button subs;
    Button muls;
```

```java
    Button divs;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        subs = findViewById(R.id.sub);
        muls = findViewById(R.id.mul);
        divs = findViewById(R.id.div);
        adds = findViewById(R.id.add);
        number1 = findViewById(R.id.num1);
        number2 = findViewById(R.id.num2);
        out = findViewById(R.id.output);
        adds.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View View) {
                Double val1 = Double.parseDouble( number1.getText().toString());
                Double val2 = Double.parseDouble(number2.getText().toString());
                Double val3 = val1 + val2;
                out.setText(val3.toString());
            }
        });
        subs.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View View) {
                Double val1 = Double.parseDouble( number1.getText().toString());
                Double val2 = Double.parseDouble(number2.getText().toString());
                Double val3 = val1 - val2;
                out.setText(val3.toString());
            }
        });
        muls.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View View) {
                Double val1 = Double.parseDouble( number1.getText().toString());
                Double val2 = Double.parseDouble(number2.getText().toString());
                Double val3 = val1 * val2;
                out.setText(val3.toString());
            }
        });
        divs.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View View) {
                Double val1 = Double.parseDouble( number1.getText().toString());
                Double val2 = Double.parseDouble(number2.getText().toString());
                Double val3 = val1 / val2;
                out.setText(val3.toString());
            }
        });
    }
}
```

RESULT

Success fully created an android application and performed mathematical operations successfully

ACCOUNT MAINTENANCE

AIM: create an android application to maintain account operations

Program
Androidmaifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.RBI">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

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"
    android:background="#786C78"
    android:layerType="software"
    android:layoutMode="clipBounds"
    tools:context=".MainActivity">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Reserve Bank Of India"
        android:textColor="#94E1EC"
        android:textSize="20sp"
        android:textStyle="bold"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.498"
        app:layout_constraintStart_toStartOf="parent"
```

```xml
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.035" />
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ACC NO:"
        android:textColor="#05F805"
        android:textSize="16sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.131"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView"
        app:layout_constraintVertical_bias="0.117" />
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="BALANCE:"
        android:textColor="#06F30F"
        android:textSize="16sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.134"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView2"
        app:layout_constraintVertical_bias="0.112" />
    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="AMOUNT:"
        android:textColor="#05F40F"
        android:textSize="16sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.143"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/textView3"
        app:layout_constraintVertical_bias="0.162" />
    <EditText
        android:id="@+id/acc"
        android:layout_width="250dp"
        android:layout_height="wrap_content"
        android:ems="10"
        android:foregroundTint="#D31212"
        android:hint="ACCOUNT NUMBER"
        android:inputType="text"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
```

```xml
            app:layout_constraintTop_toBottomOf="@+id/textView"
            app:layout_constraintVertical_bias="0.104" />
        <EditText
            android:id="@+id/amo"
            android:layout_width="250dp"
            android:layout_height="wrap_content"
            android:layout_marginBottom="428dp"
            android:ems="10"
            android:hint="AMOUNT"
            android:inputType="text"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toEndOf="@+id/textView4" />
        <Button
            android:id="@+id/debit"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:text="DEBIT"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/amo" />
        <Button
            android:id="@+id/credit"
            android:layout_width="150dp"
            android:layout_height="wrap_content"
            android:text="CREDIT"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/amo"
            app:layout_constraintVertical_bias="0.197" />
        <TextView
            android:id="@+id/bal"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="0"
            android:textSize="20sp"
            app:layout_constraintBottom_toTopOf="@+id/amo"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintStart_toEndOf="@+id/textView3"
            app:layout_constraintTop_toBottomOf="@+id/acc"/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

Main_Activity.java

```java
package com.example.rbi;
import static android.hardware.camera2.params.RggbChannelVector.RED;
import androidx.appcompat.app.AppCompatActivity;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
```

```java
public class MainActivity extends AppCompatActivity {
    EditText amount,account,balance;
    Button debi,creditt;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        amount = findViewById(R.id.amo);
        balance = findViewById(R.id.bal);
        account = findViewById(R.id.acc);
        debit = findViewById(R.id.debit);
        credit = findViewById(R.id.credit);
        debit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String acc = account.getText().toString();
                if (acc.equals("")) {
                    Toast.makeText(getApplicationContext(), "ACCOUNT NUMBER ENTER PLEASE",
                            Toast.LENGTH_LONG).show();
                } else {
                    Float bal = Float.parseFloat(balance.getText().toString());
                    Float amo = Float.parseFloat(amount.getText().toString());
                    if (amo >= 2000) {
                        Toast.makeText(getApplicationContext(), "LOW MONE",
                                Toast.LENGTH_LONG).show();
                    } else {
                        bal = bal - amo;
                    }
                    if (bal == 0) {
                        Toast.makeText(getApplicationContext(), "INSUFFICENT BALANCE",
                                Toast.LENGTH_LONG).show();
                    } else {
                        balance.setText(bal.toString());
                        Toast.makeText(getApplicationContext(), "SUCESSFULLY DEBITED!",
                                Toast.LENGTH_LONG).show();
                        if (bal < 100) {
                            balance.setTextColor(Color.RED);
                        } else if (bal > 1000) {
                            balance.setTextColor(Color.GREEN);
                        } else {
                            balance.setTextColor(Color.BLACK);
                        }
                    }
                }
            }
        });
        credit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Float bal = Float.parseFloat(balance.getText().toString());
                Float amo = Float.parseFloat(amount.getText().toString());
                if(amo>=10000){
                    Toast.makeText(getApplicationContext(), "TOO MUCH MONEY",
                            Toast.LENGTH_LONG).show();
                }
                else {
                    bal = bal + amo;
```

```
                balance.setText(bal.toString());
                Toast.makeText(getApplicationContext(), "SUCESSFULLY CREDITED!",
                    Toast.LENGTH_LONG).show();
            }
            if(bal<100){
                balance.setTextColor(Color.RED);
            }
            else if (bal>1000){
                balance.setTextColor(Color.GREEN);
            }
            else{
                balance.setTextColor(Color.BLACK);
            }
        }
    });
    }
}
```

RESULT

Developed an android application for account maintenance and output is
verified.

LINEAR LAYOUT

AIM: Build an android application to demostarte the use of Linear Layout,ScrollView

Program
AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.F1">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

Activity_Main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="20dp"
    tools:context=".MainActivity">
    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_weight="1">
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="vertical">
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:background="#FAF2F2"
                android:orientation="horizontal"
                android:padding="10dp">
                <SearchView
                    style="@android:style/Widget.Material.Light.SearchView"
                    android:layout_width="match_parent"
                    android:layout_height="wrap_content"
```

```xml
                    android:iconifiedByDefault="false"
                    android:queryHint="Enter String"
                    android:background="@drawable/search"/>
            </LinearLayout>
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:orientation="horizontal"
                android:layout_marginTop="5dp">
                <ImageView
                    android:id="@+id/imageView5"
                    android:layout_width="wrap_content"
                    android:layout_height="215dp"
                    android:layout_weight="1"
                    android:scaleType="fitXY"
                    app:srcCompat="@drawable/mer" />
            </LinearLayout>
            <LinearLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="10dp"
                android:orientation="horizontal">
                <LinearLayout
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_marginEnd="5dp"
                    android:layout_weight="1"
                    android:orientation="vertical">
                    <ImageView
                        android:id="@+id/imageView7"
                        android:layout_width="148dp"
                        android:layout_height="150dp"
                        android:layout_weight="1"
                        android:scaleType="fitXY"
                        app:srcCompat="@drawable/car" />
                    <TextView
                        android:id="@+id/textView4"
                        android:layout_width="wrap_content"
                        android:layout_height="wrap_content"
                        android:layout_weight="1"
                        android:text="RB19" />
                </LinearLayout>
                <LinearLayout
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:orientation="vertical">
                    <ImageView
                        android:id="@+id/imageView8"
                        android:layout_width="150dp"
                        android:layout_height="150dp"
                        android:layout_weight="1"
                        android:scaleType="fitXY"
                        app:srcCompat="@drawable/car" />
                    <TextView
                        android:id="@+id/textView"
                        android:layout_width="match_parent"
```

```
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:text="RB19" />
            </LinearLayout>
        </LinearLayout>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="15dp"
            android:orientation="horizontal">
            <LinearLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginEnd="5dp"
                android:layout_weight="1"
                android:orientation="vertical">
                <ImageView
                    android:id="@+id/imageView7"
                    android:layout_width="150dp"
                    android:layout_height="150dp"
                    android:layout_weight="1"
                    android:scaleType="fitXY"
                    app:srcCompat="@drawable/car" />
                <TextView
                    android:id="@+id/textView2"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:text="RB19" />
            </LinearLayout>
            <LinearLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:orientation="vertical">
                <ImageView
                    android:id="@+id/imageView8"
                    android:layout_width="150dp"
                    android:layout_height="150dp"
                    android:layout_weight="1"
                    android:scaleType="fitXY"
                    app:srcCompat="@drawable/car" />
                <TextView
                    android:id="@+id/textView3"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:text="RB19" />
            </LinearLayout>
        </LinearLayout>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="15dp"
            android:orientation="horizontal">
            <LinearLayout
                android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"
        android:layout_marginEnd="5dp"
        android:layout_weight="1"
        android:orientation="vertical">
        <ImageView
          android:id="@+id/imageView7"
          android:layout_width="150dp"
          android:layout_height="150dp"
          android:layout_weight="1"
          android:scaleType="fitXY"
          app:srcCompat="@drawable/car" />
        <TextView
          android:id="@+id/textView5"
          android:layout_width="match_parent"
          android:layout_height="wrap_content"
          android:layout_weight="1"
          android:text="RB19" />
      </LinearLayout>
      <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:orientation="vertical">
        <ImageView
          android:id="@+id/imageView8"
          android:layout_width="150dp"
          android:layout_height="150dp"
          android:layout_weight="1"
          android:scaleType="fitXY"
          app:srcCompat="@drawable/car" />
        <TextView
          android:id="@+id/textView7"
          android:layout_width="wrap_content"
          android:layout_height="wrap_content"
          android:layout_weight="1"
          android:text="RB19" />
      </LinearLayout>
    </LinearLayout>
    <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_marginTop="15dp"
      android:orientation="horizontal">
      <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginEnd="5dp"
        android:layout_weight="1"
        android:orientation="vertical">
        <ImageView
          android:id="@+id/imageView7"
          android:layout_width="150dp"
          android:layout_height="150dp"
          android:layout_weight="1"
          android:scaleType="fitXY"
          app:srcCompat="@drawable/car" />
        <TextView
```

```xml
                    android:id="@+id/textView6"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:text="RB19" />
            </LinearLayout>
            <LinearLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:orientation="vertical">
                <ImageView
                    android:id="@+id/imageView8"
                    android:layout_width="150dp"
                    android:layout_height="150dp"
                    android:layout_weight="1"
                    android:scaleType="fitXY"
                    app:srcCompat="@drawable/car" />
                <TextView
                    android:id="@+id/textView8"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:text="RB19" />
            </LinearLayout>
        </LinearLayout>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="15dp"
            android:orientation="horizontal">
            <LinearLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginEnd="5dp"
                android:layout_weight="1"
                android:orientation="vertical">
                <ImageView
                    android:id="@+id/imageView7"
                    android:layout_width="150dp"
                    android:layout_height="150dp"
                    android:layout_weight="1"
                    android:scaleType="fitXY"
                    app:srcCompat="@drawable/car" />
                <TextView
                    android:id="@+id/textView9"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:text="RB19" />
            </LinearLayout>
            <LinearLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:orientation="vertical">
                <ImageView
```

```
                    android:id="@+id/imageView8"
                    android:layout_width="150dp"
                    android:layout_height="150dp"
                    android:layout_weight="1"
                    android:scaleType="fitXY"
                    app:srcCompat="@drawable/car" />
                <TextView
                    android:id="@+id/textView10"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_weight="1"
                    android:text="RB19" />
            </LinearLayout>
        </LinearLayout>
    </LinearLayout>
    </ScrollView>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginTop="10dp">
        <ImageView
            android:id="@+id/imageView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            app:srcCompat="@drawable/car1" />
        <ImageView
            android:id="@+id/imageView2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            app:srcCompat="@drawable/car2" />
        <ImageView
            android:id="@+id/imageView3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            app:srcCompat="@drawable/car3" />
        <ImageView
            android:id="@+id/imageView4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            app:srcCompat="@drawable/blue" />
    </LinearLayout>
</LinearLayout>
```

RESULT

Developed an android application and Demonstrated the use of Linear
layout and scrollView

REGISTRATION FORM

AIM:use different andoid input controls to create an registration form in android and use Toast widget to send a message

Program
Androidmaifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/blaze"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/blaze"
        android:supportsRtl="true"
        android:theme="@style/Theme.REGISTER">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

Country.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string-array name="country">
        <item>INDIA</item>
        <item>USA</item>
        <item>PAKISTAN</item>
        <item>AREA 51</item>
        <item>BERMUDA TRIANGLE</item>
        <item>Thironthoram</item>
    </string-array>
</resources>
```

Gender.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string-array name="gender">
    <item>MALE</item>
    <item>FEMALE</item>
    <item>Attack helicopter</item>
    <item>plastic bag</item>
    <item>A10 warthHog</item>
    <item>car</item>
    <item>other</item>
    </string-array>
</resources>
```

Input.xml

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

```xml
<selector xmlns:android="http://schemas.android.com/apk/res/android">
    <item>
        <shape android:shape="rectangle" android:thickness="10dp" >
            <solid android:color="#4A8F59"></solid>
            <stroke android:color="#000" android:width="2dp" ></stroke>
            <corners android:radius="10dp"></corners>
        </shape>
    </item>
</selector>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="#C6BB54"
    android:orientation="vertical"
    tools:context=".MainActivity"
    android:gravity="center">
    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="REGISTRATION"
        android:textSize="20sp" />
    <ScrollView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginStart="10dp"
        android:layout_marginEnd="20dp"
        android:gravity="center"
        android:orientation="vertical">
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:orientation="vertical"
        android:layout_marginRight="10dp"
        android:layout_marginLeft="10dp">
    <TextView
        android:id="@+id/textView"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="USERNAME"
        android:textStyle="bold"/>
        <EditText
            android:id="@+id/user"
            android:layout_width="match_parent"
            android:layout_height="50dp"
            android:background="@drawable/input"
            android:ems="10"
            android:hint="USERNAME"/>
    <TextView
        android:id="@+id/textView1"
```

```
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="10dp"
                android:text="EMAIL"
                android:textStyle="bold"/>
            <EditText
                android:id="@+id/mail"
                android:layout_width="match_parent"
                android:layout_height="50dp"
                android:background="@drawable/input"
                android:ems="10"
                android:hint="EMAIL"
                android:inputType="textEmailAddress" />
        <TextView
            android:id="@+id/textView3"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:text="PHONE NO"
            android:textStyle="bold"/>
            <EditText
                android:id="@+id/phone"
                android:layout_width="match_parent"
                android:layout_height="50dp"
                android:background="@drawable/input"
                android:ems="10"
                android:hint="PHONE"
                android:inputType="phone" />
        <TextView
            android:id="@+id/textView4"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:text="PASSWORD"
            android:textStyle="bold" />
            <EditText
                android:id="@+id/pass"
                android:layout_width="match_parent"
                android:layout_height="50dp"
                android:background="@drawable/input"
                android:ems="10"
                android:hint="PASSWORD"
                android:inputType="textPassword" />
        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:text="HUMAN VERIFICATION"
            android:textStyle="bold"/>
        <RadioGroup
            android:id="@+id/human"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:orientation="horizontal">
            <RadioButton
                android:id="@+id/radio1"
                android:layout_width="wrap_content"
```

```xml
        android:layout_height="wrap_content"
        android:text="HUMAN" />
    <RadioButton
        android:id="@+id/radio2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="ROBOT" />
    <RadioButton
        android:id="@+id/radio3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="OTHER" />
</RadioGroup>
<TextView
    android:id="@+id/textView8"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="GENDER"
    android:textStyle="bold"/>
<Spinner
    android:id="@+id/gender"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:entries="@array/gender" />
<TextView
    android:id="@+id/textView9"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="LANGAUGES KNOW"
    android:textStyle="bold"/>
<CheckBox
    android:id="@+id/mal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Malayalam" />
<CheckBox
    android:id="@+id/hin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Hindi" />
<CheckBox
    android:id="@+id/eng"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="English" />
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:text="COUNTRY"
    android:textStyle="bold"/>
<Spinner
    android:id="@+id/country"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
```

```xml
                android:entries="@array/country" />
            <Switch
                android:id="@+id/alive"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="20dp"
                android:text="ALIVE"
                tools:ignore="UseSwitchCompatOrMaterialXml"
                android:textStyle="bold"/>
        </LinearLayout>
    </ScrollView>
        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:orientation="horizontal">
        <Button
            android:id="@+id/submit"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:background="@drawable/press"
            android:layout_marginTop="10dp"
            android:text="SUBMIT" />
        <Button
            android:layout_marginLeft="20dp"
            android:id="@+id/next"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:background="@drawable/press"
            android:layout_marginTop="10dp"
            android:text="NEXT PAGE" />
        </LinearLayout>
    </LinearLayout>
```

Main_Activity.java

```java
package com.example.register;
import androidx.appcompat.app.AppCompatActivity;
import android.annotation.SuppressLint;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Spinner;
import android.widget.Switch;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    EditText user,mail,phone,pass;
     RadioButton hu,ro,ot;
    Spinner gender,country;
    CheckBox mal,hin,eng;
    Switch alive;
    Button submit,next;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```java
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
         user=findViewById(R.id.user);
         submit=findViewById(R.id.submit);
         mail=findViewById(R.id.mail);
         pass=findViewById(R.id.pass);
         phone=findViewById(R.id.phone);
         hu=findViewById(R.id.radio1);
         ro=findViewById(R.id.radio2);
         ot=findViewById(R.id.radio3);
         gender=findViewById(R.id.gender);
         country=findViewById(R.id.country);
         mal=findViewById(R.id.mal);
         hin=findViewById(R.id.hin);
         eng=findViewById(R.id.eng);
         alive =findViewById(R.id.alive);
         next = findViewById(R.id.next);
         submit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
               String h,mala=null,hindi = null,english = null,gen,coun,stats;
               if (user.getText().toString().equals("")) {
                  Toast.makeText(getApplicationContext(), "PLEASE FILL THE FORM YOU FIELD",
                  Toast.LENGTH_SHORT).show();
               } else if (mail.getText().toString().equals("")) {
                  Toast.makeText(getApplicationContext(), "PLEASE FILL THE FIELD",
                   Toast.LENGTH_SHORT).show();
               } else if (phone.getText().toString().equals("")) {
                  Toast.makeText(getApplicationContext(), "PLEASE FILL THE FIELD",
                  Toast.LENGTH_SHORT).show();
               }
                else if(pass.getText().toString().equals("")){
                  Toast.makeText(getApplicationContext(), "PLEASE FILL THE FIELD",
                  Toast.LENGTH_SHORT).show();
               }
                else {
                  String name = user.getText().toString();
                  String email = mail.getText().toString();
                  String pas = pass.getText().toString();
                  String pho = phone.getText().toString();
                  if (hu.isChecked()) {
                      h = hu.getText().toString();
                  } else if (ro.isChecked()) {
                      h = ro.getText().toString();
                  } else {
                      h = ot.getText().toString();
                  }
                  if(mal.isChecked()){
                   mala= mal.getText().toString();
                  }
                   if(hin.isChecked()) {
                      hindi=hin.getText().toString();
                  }
                   if(eng.isChecked()){
                     english = eng.getText().toString();
                  }
                   gen = gender.getSelectedItem().toString();
```

```
               coun = country.getSelectedItem().toString();
               if(alive.isChecked()){
                  stats ="ALIVE";
               }
               else{
                  stats ="DEAD";
               }
               String last = "USERNAME:"+name
                +"\n"+"EMAIL:"+email+"\n"+"PHONE:"+pho+"\n"+"PASSWORD:"+pas+"\n"+"H
                UMAN:"+h+"\n"+"GENDER:"+gen+"\n"
                +"COUNTRY:"+coun+"\n"+"LANGUAGES:"+mala+","+hindi+","+english+"\n"+"S
                TATUS:"+stats;
               Toast.makeText(getApplicationContext(), last, Toast.LENGTH_SHORT).show();
          }
        }
      });
   }
}
```

RESULT

Successfully created an android application and used different controls to
collect user data and made a toast message

EXPERIMENT 6   **DATE:09/01/24**
IMAGE ANIMATION
AIM: Build an android application to apply animation to image

program
Androidmaifest.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools">
  <application
    android:icon="@mipmap/blaze"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/blaze"
    android:supportsRtl="true"
    android:theme="@style/Theme.Animation">
    <activity
      android:name=".MainActivity"
      android:exported="true">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>
</manifest>
```
Fade.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
  <alpha
    android:duration="10000"
    android:fromAlpha="1.0"
    android:toAlpha="0.0" />
</set>
```
Rotate.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
  <rotate
    android:duration="5000"
    android:fromDegrees="0"
    android:pivotX="25%"
    android:pivotY="40%"
    android:toDegrees="72000"/>
  </set>
```
Scale.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
  <scale
    android:duration="5000"
    android:fromXScale="1.0"
    android:fromYScale="1.0"
    android:toXScale="1.0"
    android:toYScale="0.0"/>
</set>
```

Translate.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<set xmlns:android="http://schemas.android.com/apk/res/android">
 <translate
    android:fromXDelta="100%p"
    android:toXDelta="0%"
    android:duration="5000”/>
  <rotate
    android:fromDegrees="0"
    android:toDegrees="720"
    android:pivotY="50%"
    android:pivotX="50%"
    android:duration="5000"/>
  <scale
    android:duration="5000"
    android:fromXScale="1.0"
    android:fromYScale="1.0"
    android:toXScale="1.0"
    android:toYScale="0.0"/>
</set>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity"
   android:orientation="vertical"
   android:gravity="center">
   <TextView
      android:id="@+id/textView"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:gravity="center"
      android:text="ANIMATE"
      android:textSize="34sp"
      android:textStyle="bold" />
   <ImageView
      android:id="@+id/iron"
      android:layout_width="match_parent"
      android:layout_height="700dp"
      android:src="@drawable/back" />
   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_weight="1"
      android:gravity="center"
      android:orientation="horizontal">
      <Button
         android:id="@+id/animate"
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="FADE" />
      <Button
         android:id="@+id/fade"
         android:layout_width="wrap_content"
```

```xml
                android:layout_height="wrap_content"
                android:text="ROTATE" />
            <Button
                android:id="@+id/scale"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="SCALE" />
            <Button
                android:id="@+id/translate"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="TRANSLATE" />
            <Button
                android:id="@+id/java"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="MIX" />
    </LinearLayout>
</LinearLayout>
```

Main_Activity.java

```java
package com.example.animation;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.view.animation.Animation;
import android.view.animation.AnimationUtils;
import android.widget.Button;
import android.widget.ImageView;
public class MainActivity extends AppCompatActivity {
    ImageView photo;
    Button btn_1,btn_2,btn_3,btn_4,btn_5;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        photo = findViewById(R.id.iron);
        btn_1 = findViewById(R.id.animate);
        btn_2 = findViewById(R.id.fade);
        btn_3 = findViewById(R.id.scale);
        btn_4 = findViewById(R.id.translate);
        btn_5 = findViewById(R.id.java);
        btn_1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Animation op = AnimationUtils.loadAnimation(getApplicationContext(),
                 R.anim.fade);
                photo.startAnimation(op);
            }
        });
        btn_2.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Animation fade = AnimationUtils.loadAnimation(getApplicationContext(),
                R.anim.rotate);
                photo.startAnimation(fade);
            }
```

```java
        });
        btn_3.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Animation scale = AnimationUtils.loadAnimation(getApplicationContext(),
                  R.anim.scale);
                photo.startAnimation(scale);
            }
        });
        btn_4.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Animation trans =
                AnimationUtils.loadAnimation(getApplicationContext(),R.anim.translate);
                photo.startAnimation(trans);
            }
        });
    }
}
```

RESULT
Created an android application and applied animation to image asset

EMAIL APPLICATION USING IMPLICIT INTENT

AIM: To create an android application which use implicit intent to send email

Program

Androidmaifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools">
   <application
      android:roundIcon="@mipmap/blaze"
      android:supportsRtl="true"
      android:theme="@style/Theme.Email">
      <activity
        android:name=".MainActivity"
        android:exported="true">
        <intent-filter>
           <action android:name="android.intent.action.MAIN" />
           <category android:name="android.intent.category.LAUNCHER" />
        </intent-filter>
      </activity>
   </application>
</manifest>
```

back.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
<item>
   <shape android:shape="rectangle" android:radius="10dp">
      <solid android:color="#0CA4EA" android:radius="10dp" />
      <stroke  android:color="#000" android:width="2dp" />
    <corners android:radius="5dp"/>
   </shape>
  </item>
</selector>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity">
   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_marginLeft="10dp"
      android:layout_marginRight="10dp"
      android:orientation="vertical"
      android:gravity="center">
      <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SEND EMAIL"
```

```xml
                android:textSize="20dp"
                android:textStyle="bold"  />
        <EditText
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:id="@+id/toadd"
            android:layout_marginTop="20dp"
            android:background="@drawable/back"
            android:hint="FROM ADDRESS"
            android:inputType="textEmailAddress" />
        <EditText
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:id="@+id/from"
            android:background="@drawable/back"
            android:layout_marginTop="20dp"
            android:hint="TO ADDRESS"
            android:inputType="textEmailAddress"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="45dp"
            android:id="@+id/sub"
            android:background="@drawable/back"
            android:layout_marginTop="20dp"
            android:hint="SUBJECT"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="170dp"
            android:id="@+id/mail"
            android:background="@drawable/back"
            android:layout_marginTop="20dp"
            android:hint="TEXT EMAIL"/>
        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp">
             <Button
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="cancel"
                android:id="@+id/cancel"/>
            <Button
                android:layout_width="wrap_content"
               android:layout_height="wrap_content"
                android:text="send"
                android:id="@+id/send"/>
        </LinearLayout>
    </LinearLayout>
</LinearLayout>
```

Main_Activity.java

```java
package com.example.email;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
```

```java
public class MainActivity extends AppCompatActivity {
    EditText toadd1,fromadd,subject,email;
    Button submit,can;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        fromadd = findViewById(R.id.from);
        toadd1 = findViewById(R.id.toadd);
        subject = findViewById(R.id.sub);
        email = findViewById(R.id.mail);
        submit = findViewById(R.id.send);
        can = findViewById(R.id.cancel);
        Activity_main.xml
        can.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                toadd1.setText("");
                fromadd.setText("");
                subject.setText("");
                email.setText("");
            }
        });
        submit.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (toadd1.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity.this, "ENTER THE FIELD",
                    Toast.LENGTH_SHORT).show();
                } else if (subject.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity.this, "ENTER THE FIELD",
                    Toast.LENGTH_SHORT).show();
                } else if (email.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity.this, "ENTER THE FIELD",
                    Toast.LENGTH_SHORT).show();
                } else {
                    Intent mail = new Intent(Intent.ACTION_SEND);
                    String[]address = new String[]{toadd1.getText().toString().trim()};
                    String sub = subject.getText().toString().trim();
                    String mess = email.getText().toString().trim();
                    mail.putExtra(Intent.EXTRA_EMAIL, address);
                    mail.putExtra(Intent.EXTRA_SUBJECT, sub);
                    mail.putExtra(Intent.EXTRA_TEXT, mess);
                    mail.setType("message/rfc822");
                    Intent chooser = Intent.createChooser(mail, "share");
                    startActivity(chooser);
                }
            }
        });
    }
}
```

RESULT

Developed android application to send email using implicit intent

EXPERIMENT 8   DATE:16/01/24
BROWSE INTERNET
AIM:use implicit Intent in android to create android application to browse internet programs

Program
Androidmaifest.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools" >
   <application
      android:icon="@mipmap/ic_launcher"
      android:roundIcon="@mipmap/ic_launcher_round"
      android:supportsRtl="true"
      android:theme="@style/Theme.Browse"
      tools:targetApi="31" >
      <activity
         android:name=".MainActivity"
         android:exported="true" >
         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
      </activity>
   </application>
</manifest>
```
back.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
<item>
   <shape android:shape="rectangle" android:radius="10dp">
      <solid android:color="#0CA4EA" android:radius="10dp" />
      <stroke  android:color="#000" android:width="2dp" />
    <corners android:radius="5dp"/>
   </shape>
</item>
</selector>
```
Activity_main.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:app="http://schemas.android.com/apk/res-auto"
   xmlns:tools="http://schemas.android.com/tools"
   android:layout_width="match_parent"
   android:layout_height="match_parent"
   tools:context=".MainActivity"
   android:orientation="vertical" >
    <LinearLayout
     android:layout_width="match_parent"
     android:layout_height="wrap_content"
       android:orientation="vertical"
       android:layout_marginRight="10dp"
```

```xml
        android:layout_marginLeft="10dp">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Browse"
            android:textStyle="bold"
            android:textSize="20sp" />
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Enter URL"
            android:textStyle="bold"
            android:layout_marginTop="20dp"
            android:textSize="20sp"/>
        <EditText
            android:layout_marginTop="10dp"
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:background="@drawable/back"
            android:id="@+id/url"/>
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Browse"
            android:id="@+id/browse"
            android:layout_marginTop="10dp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Launch Map"
            android:textStyle="bold"
            android:layout_marginTop="10dp"
            android:textSize="20sp"
            android:layout_gravity="center"/>
        <RelativeLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content">
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Enter Cordinates"
                android:textStyle="bold"
                android:layout_marginTop="20dp"
                android:textSize="20sp"
                android:id="@+id/lat1"/>
            <EditText
                android:layout_width="match_parent"
                android:id="@+id/lat"
                android:layout_height="40dp"
                android:layout_toRightOf="@+id/lat1"
                android:background="@drawable/back"
                android:layout_marginTop="10dp"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Enter Cordinates"
                android:layout_marginTop="10dp"
```

```
                    android:textStyle="bold"
                    android:layout_below="@+id/lat1"
                    android:textSize="20sp"
                    android:id="@+id/lon1"/>
                <EditText
                    android:layout_width="match_parent"
                    android:layout_height="40dp"
                    android:id="@+id/lon"
                    android:layout_below="@+id/lat1"
                    android:layout_toRightOf="@+id/lon1"
                    android:background="@drawable/back"
                    android:layout_marginTop="10dp"/>
                <Button
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="FIND"
                    android:id="@+id/find"
                    android:layout_below="@+id/lon1"
                    android:layout_marginTop="10dp"/>
            </RelativeLayout>
        </LinearLayout>
    </LinearLayout>
```

Main_Activity.java

```
package com.example.browse;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
 Button bro,map;
 EditText link, latitude,longitutde;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
     super.onCreate(savedInstanceState);
     setContentView(R.layout.activity_main);
     bro = findViewById(R.id.browse);
     map = findViewById(R.id.find);
     link = findViewById(R.id.url);
     latitude = findViewById(R.id.lat);
     longitutde = findViewById(R.id.lon);
     bro.setOnClickListener(new View.OnClickListener() {
       @Override
       public void onClick(View v) {
         if (link.getText().toString().isEmpty()) {
           Toast.makeText(MainActivity.this, "PLEASE ENTER VALID URL",
           Toast.LENGTH_SHORT).show();
         } else  {
           String search = link.getText().toString().trim();
           Intent browse = new Intent(Intent.ACTION_VIEW);
           browse.setData(Uri.parse(search));
           Intent chooser = Intent.createChooser(browse, "Select");
           startActivity(chooser);
         }
```

```java
        }
    });
    map.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            if(latitude.getText().toString().isEmpty()){
                Toast.makeText(MainActivity.this, "PLEASE ENTER",
             Toast.LENGTH_SHORT).show();
            } else if (longitutde.getText().toString().isEmpty()) {
                Toast.makeText(MainActivity.this, "PLEASE ENTER",
                Toast.LENGTH_SHORT).show();
            }
            else {
                String lat2 = latitude.getText().toString().trim();
                String lon2 = longitutde.getText().toString().trim();
                Toast.makeText(MainActivity.this, lat2 + lon2, Toast.LENGTH_SHORT).show();
                Intent map = new Intent(Intent.ACTION_VIEW);
                map.setData(Uri.parse("geo:" + lat2 + " " + lon2));
                Intent chooser = Intent.createChooser(map, "Select");
                startActivity(chooser);
            }
        }
    });
}
}
```

RESULT

Created android application and browsed internet applications using
implicit intent

EXPLICIT INTENT

AIM: To build an android application which use Explicit intent move between activities

program

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
   xmlns:tools="http://schemas.android.com/tools">
   <application
      android:icon="@mipmap/ic_launcher"
      android:label="@string/multi_registration"
      android:roundIcon="@mipmap/ic_launcher_round"
      android:supportsRtl="true"
      android:theme="@style/Theme.MutiRegistration">
      <activity
         android:name=".MainActivity4"
         android:exported="false"
         android:parentActivityName=".MainActivity2" />
      <activity
         android:name=".MainActivity3"
         android:exported="false"
         android:parentActivityName=".MainActivity2"/>
      <activity
         android:name=".MainActivity2"
         android:exported="false"
         android:parentActivityName=".MainActivity"/>
      <activity
         android:name=".MainActivity"
         android:exported="true">
         <intent-filter>
            <action android:name="android.intent.action.MAIN" />
            <category android:name="android.intent.category.LAUNCHER" />
         </intent-filter>
      </activity>
   </application>
</manifest>
```

Form.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
<item>
   <shape android:shape="rectangle">
      <solid android:color="#B10D81"/>
      <stroke android:color="#000" android:width="3dp"/>
      <corners android:radius="5dp"/>
   </shape>
</item>
</selector>
```

Login.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
<item>
   <shape android:shape="rectangle">
      <solid android:color="#BFC520"/>
      <stroke android:color="#000" android:width="2dp"/>
```

```xml
                <corners android:radius="10dp"/>
            </shape>
        </item>
    </selector>
```

Activity_Main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:gravity="center"
    android:orientation="vertical">
    <View
        android:layout_width="match_parent"
        android:layout_height="200dp"
        android:layout_weight="0" />
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:layout_weight="0">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="DASH BOARD"
            android:textSize="30sp"
            android:textStyle="bold"
            />
    </LinearLayout>/
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="10dp"
        android:layout_marginRight="10dp"
        android:orientation="vertical"
        android:layout_weight="1">
        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:orientation="horizontal"
            android:layout_weight="0">
            <ImageView
                android:layout_width="wrap_content"
                android:layout_height="100dp"
                android:src="@drawable/home"
                android:layout_weight="1"/>
            <ImageView
                android:layout_width="wrap_content"
                android:layout_height="100dp"
                android:src="@drawable/log"
                android:layout_weight="1"
                android:id="@+id/login" />
        </LinearLayout>
        <LinearLayout
            android:layout_width="wrap_content"
```

```
          android:layout_height="wrap_content"
          android:orientation="horizontal"
          android:layout_marginTop="50dp"
          android:layout_weight="0">
          <ImageView
             android:layout_width="wrap_content"
             android:layout_height="100dp"
             android:src="@drawable/settings"
             android:layout_weight="1"/>
          <ImageView
             android:layout_width="wrap_content"
             android:layout_height="100dp"
             android:src="@drawable/logout"
             android:layout_weight="1"/>
       </LinearLayout>
    </LinearLayout>
 </LinearLayout>
```

Activity_Main2.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=".MainActivity2"
    android:orientation="vertical">
    <TextView
       android:layout_width="wrap_content"
       android:layout_height="wrap_content"
       android:text="SIGN UP INTO APPLICATION"
       android:textSize="20sp"
       android:textStyle="bold"
       android:layout_gravity="center"/>
    <LinearLayout
       android:layout_width="match_parent"
       android:layout_height="wrap_content"
       android:layout_marginRight="10dp"
       android:layout_marginLeft="10dp"
       android:orientation="vertical">
       <TextView
          android:layout_width="wrap_content"
          android:layout_height="wrap_content"
          android:text="USER NAME"
          android:textStyle="bold"
          android:textSize="20sp"
          android:layout_marginTop="10dp"/>
       <EditText
          android:layout_width="match_parent"
          android:layout_height="40dp"
          android:id="@+id/username"
          android:background="@drawable/form"
          android:inputType="text"  />
       <TextView
          android:layout_width="wrap_content"
          android:layout_height="wrap_content"
          android:text="EMAIL ADDRESS"
```

```xml
        android:textStyle="bold"
        android:textSize="20sp"
        android:layout_marginTop="10dp"/>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="40dp"
        android:id="@+id/email"
        android:background="@drawable/form"
        android:inputType="textEmailAddress"  />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PHONE NUMBER"
        android:textStyle="bold"
        android:textSize="20sp"
        android:layout_marginTop="10dp"/>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="40dp"
        android:id="@+id/phone"
        android:inputType="phone"
        android:background="@drawable/form"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="PASSWORD"
        android:textStyle="bold"
        android:textSize="20sp"
        android:layout_marginTop="10dp"/>
    <EditText
        android:layout_width="match_parent"
        android:layout_height="40dp"
        android:id="@+id/password"
        android:inputType="textPassword"
        android:background="@drawable/form"/>
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:layout_marginStart="10dp">
        <Button
            android:id="@+id/sign"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="sign up" />
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/back"
            android:text="RETURN TO LOGIN"
            android:layout_alignParentEnd="true"/>
    </RelativeLayout>
  </LinearLayout>
</LinearLayout>
```

Activity Main3.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
```

```xml
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2"
    android:orientation="vertical">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LOGIN INTO APPLICATION"
        android:textSize="20sp"
        android:textStyle="bold"
        android:layout_gravity="center"/>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginRight="10dp"
        android:layout_marginLeft="10dp"
        android:orientation="vertical">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="USER NAME"
            android:textStyle="bold"
            android:textSize="20sp"
            android:layout_marginTop="10dp"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:id="@+id/username1"
            android:background="@drawable/login"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="PASSWORD"
            android:textStyle="bold"
            android:textSize="20sp"
            android:layout_marginTop="10dp"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:id="@+id/password1"
            android:inputType="textPassword"
            android:background="@drawable/login" />
        <RelativeLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:layout_marginStart="10dp">
            <Button
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/login"
                android:text="LOGIN"/>
            <TextView
                android:textSize="15sp"
                android:id="@+id/mess"
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/login"
        android:text="if you dont have an account?"/>
    <TextView
        android:textSize="15sp"
        android:id="@+id/reg"
        android:layout_toRightOf="@+id/mess"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_below="@+id/login"
        android:text="Register Now!"/>
  </RelativeLayout>
 </LinearLayout>
</LinearLayout>
```

Activity_Main4.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=".MainActivity2"
  android:orientation="vertical">
  <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="LOGIN INTO APPLICATION"
    android:textSize="20sp"
    android:textStyle="bold"
    android:layout_gravity="center"/>
  <LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginRight="10dp"
    android:layout_marginLeft="10dp"
    android:orientation="vertical">
    <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="USER NAME"
      android:textStyle="bold"
      android:textSize="20sp"
      android:layout_marginTop="10dp"/>
    <EditText
      android:layout_width="match_parent"
      android:layout_height="40dp"
      android:id="@+id/username2"
      android:background="@drawable/login" />
    <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="PASSWORD"
      android:textStyle="bold"
      android:textSize="20sp"
      android:layout_marginTop="10dp"/>
    <EditText
```

```xml
                    android:layout_width="match_parent"
                    android:layout_height="40dp"
                    android:id="@+id/password2"
                    android:inputType="textPassword"
                    android:background="@drawable/login"  />
            <RelativeLayout
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="20dp"
                android:layout_marginStart="10dp">
                <Button
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:id="@+id/loged"
                    android:text="LOGIN"/>
                <TextView
                    android:textSize="15sp"
                    android:id="@+id/mess"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_below="@+id/loged"
                    android:text="if you dont have an account?"/>
                <TextView
                    android:textSize="15sp"
                    android:id="@+id/reg"
                    android:layout_toRightOf="@+id/mess"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:layout_below="@+id/loged"
                    android:text="Register Now!"/>
            </RelativeLayout>
        </LinearLayout>
    </LinearLayout>
```

Main_Activity.java

```java
package com.example.mutiregistration;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.ImageView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    ImageView log,sign;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        log = findViewById(R.id.login);
        log.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent login = new Intent(getApplicationContext(), MainActivity3.class);
                startActivity(login);
            }
        });
```

```
        }
}
```

Main_Activity2.java

```java
package com.example.mutiregistration;
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;
import android.widget.Toast;
public class MainActivity2 extends AppCompatActivity {
    Button ret,sign;
    EditText pass,user,mail,pho;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        user = findViewById(R.id.username);
        pass = findViewById(R.id.password);
        mail = findViewById(R.id.email);
        pho = findViewById(R.id.phone);
        ret = findViewById(R.id.back);
        sign = findViewById(R.id.sign);
        ret.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent back = new Intent(getApplicationContext(), MainActivity4.class);
                String user1 = user.getText().toString().trim();
                String pass1 = pass.getText().toString().trim();
                back.putExtra("user",user1);
                back.putExtra("pass",pass1);
                Bundle data = new Bundle();
                data.putString("user",user1);
                data.putString("pass",pass1);
                startActivity(back);
            }
        });
        sign.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (user.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "enter username",
                    Toast.LENGTH_SHORT).show();
                } else if (mail.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "Enter email", Toast.LENGTH_SHORT).show();
                } else if (pho.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "Enter phone",
                    Toast.LENGTH_SHORT).show();
                } else if (pass.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "Enter password",
                    Toast.LENGTH_SHORT).show();
                } else {
                    Toast.makeText(MainActivity2.this, "Completed signup",
                    Toast.LENGTH_SHORT).show();
                }
            }
```

```
      });
   }
}
```

Main_Activity3.java

```java
package com.example.mutiregistration;
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;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity3 extends AppCompatActivity {
   TextView register;
   Button btn;
   EditText user1,pass1;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main3);
      btn = findViewById(R.id.login);
      user1 = findViewById(R.id.username1);
      pass1 = findViewById(R.id.password1);
      register = findViewById(R.id.reg);
      register.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            Intent signup = new Intent(getApplicationContext(), MainActivity2.class);
            startActivity(signup);
         }
      });
      btn.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            Toast.makeText(MainActivity3.this, "No login information not found register now",
            Toast.LENGTH_SHORT).show();
         }
      });
   }
}
```

Main_Activity4.java

```java
package com.example.mutiregistration;
import androidx.activity.result.contract.ActivityResultContracts;
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;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity4 extends AppCompatActivity {
 EditText user1,pass1;
 Button logmessage;
 TextView regi;
  @Override
```

```java
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main4);
        logmessage = findViewById(R.id.loged);
        regi = findViewById(R.id.reg);
        user1 = findViewById(R.id.username2);
        pass1 = findViewById(R.id.password2);
        Intent back = getIntent();
        Bundle data = back.getExtras();
        String user = data.getString("user");
        String pass = data.getString("pass");
        user1.setText(user);
        pass1.setText(pass);
        logmessage.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Toast.makeText(MainActivity4.this, "SUCESSFULLY LOGGED IN",
                Toast.LENGTH_SHORT).show();
            }
        });
        regi.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent sign = new Intent(getApplicationContext(), MainActivity2.class);
                startActivity(sign);
            }
        });
    }
}
```

RESULT

Developed android application and exchangeed between activities using explicit intent

EXPLICIT INTENT AND BUNDLE

AIM:move betwwen activities using explicit intent and exchange data with BUNDLE function

program
AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools">
  <application
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.StudentPortal">
    <activity
      android:name=".upload_marks"
      android:exported="false"
      android:parentActivityName=".MainActivity"/>
    <activity
      android:name=".sudentinformation"
      android:exported="false" />
    <activity
      android:name=".MainActivity"
      android:exported="true">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>
</manifest>
```

Input.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
<item>
  <shape android:shape="rectangle">
    <solid android:color="#8291E0"/>
    <corners android:radius="10dp"/>
    <stroke android:color="#000" android:width="2dp"/>
  </shape>
</item>
</selector>
```

Semester.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
  <string-array name="semester">
    <item>semester</item>
    <item>S1</item>
    <item>S2</item>
    <item>S3</item>
    <item>S4</item>
    <item>S5</item>
```

```
            <item>S6</item>
        </string-array>
    </resources>
```

Coll.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <string-array name="colleage">
        <item> Colleage name</item>
        <item>G P T C ATTINGAL</item>
        <item>G P T C NEDUMANGAD</item>
        <item>G P T C KAIMANEM</item>
        <item>C P T C VATTIYOORKAVE</item>
    </string-array>
</resources>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">
    <TextView
        android:id="@+id/head"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enroll New Student Details"
        android:textSize="20sp"
        android:textStyle="bold"/>
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginLeft="20dp"
        android:layout_marginTop="30dp"
        android:layout_marginRight="20dp">
        <TextView
            android:id="@+id/msg1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Student Name"
            android:textSize="20sp"
            android:textStyle="bold" />
        <EditText
            android:id="@+id/name"
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:layout_below="@+id/msg1"
            android:background="@drawable/input" />
        <TextView
            android:id="@+id/msg2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/name"
            android:text="Register Number"
            android:textSize="20sp"
```

```
            android:textStyle="bold" />
        <EditText
            android:id="@+id/register"
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:layout_below="@+id/msg2"
            android:background="@drawable/input" />
        <Button
            android:id="@+id/submit"
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:layout_below="@+id/register"
            android:layout_marginTop="20dp"
            android:gravity="center"
            android:text="Submit"/>
    </RelativeLayout>
</LinearLayout>
```

Activity_studentinformation.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"
    android:background="@drawable/bck5"
    android:orientation="vertical"
    tools:context=".MainActivity"
    android:gravity="center">
    <TextView
        android:id="@+id/textView2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:text="STUDENT REGISTRATION"
        android:textSize="20sp" />
     <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:orientation="vertical"
        android:layout_marginRight="10dp"
        android:layout_marginLeft="10dp">
        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Student Name"
            android:textStyle="bold"/>
        <EditText
            android:id="@+id/stname"
            android:layout_width="match_parent"
            android:layout_height="50dp"
            android:background="@drawable/input" />
        <TextView
            android:id="@+id/textView1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
```

```xml
            android:layout_marginTop="10dp"
            android:text="REGISTER"
            android:textStyle="bold"/>
    <EditText
        android:id="@+id/reg"
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:background="@drawable/input"
        android:ems="10"
        android:inputType="textEmailAddress" />
    <TextView
        android:id="@+id/textView3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="PHONE NO"
        android:textStyle="bold"/>
    <EditText
        android:id="@+id/phone"
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:background="@drawable/input"
        android:ems="10"
        android:inputType="phone" />
    <TextView
        android:id="@+id/textView4"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="EMAIL"
        android:textStyle="bold" />
    <EditText
        android:id="@+id/mail"
        android:layout_width="match_parent"
        android:layout_height="50dp"
        android:background="@drawable/input"
        android:ems="10"
        android:inputType="text" />
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="Gender"
        android:textStyle="bold"/>
    <RadioGroup
        android:id="@+id/gender"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
        <RadioButton
            android:id="@+id/radio1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="male" />
        <RadioButton
            android:id="@+id/radio2"
            android:layout_width="wrap_content"
```

```
                    android:layout_height="wrap_content"
                    android:text="female" />
                <RadioButton
                    android:id="@+id/radio3"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="OTHER" />
            </RadioGroup>
            <TextView
                android:id="@+id/textView8"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="10dp"
                android:text="COLLEAGE"
                android:textStyle="bold"/>
            <Spinner
                android:id="@+id/coll"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:entries="@array/colleage" />
            <TextView
                android:id="@+id/textView9"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="20dp"
                android:text="SEMESTER"
                android:textStyle="bold" />
            <Spinner
                android:id="@+id/sem"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:entries="@array/semester"/>
            <TextView
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="20dp"
                android:text="DEPARTMENT"
                android:textStyle="bold"/>
            <Spinner
                android:id="@+id/dept"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:entries="@array/dept" />
            <Switch
                android:id="@+id/alive"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginTop="20dp"
                android:text="DAY SCHOLAR"
                tools:ignore="UseSwitchCompatOrMaterialXml"
                android:textStyle="bold"/>
        </LinearLayout>
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="horizontal">
        <Button
```

```
                android:id="@+id/submit"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_marginTop="10dp"
                android:text="SUBMIT"
                android:background="@drawable/input"/>
        </LinearLayout>
    </LinearLayout>
```

Activity_upload_marks.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=".upload_marks"
    android:orientation="vertical">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Upload Marks"
        android:textSize="25sp"
        android:layout_gravity="center"
        android:textStyle="bold"/>
    <RelativeLayout
        android:layout_gravity="center"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="10dp"
        android:layout_marginRight="10dp">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/name"
            android:text="Name -"
            android:textSize="20sp"/>
        <TextView
            android:id="@+id/name1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_toRightOf="@+id/dept"
            android:textSize="20sp"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/register"
            android:layout_below="@+id/name"
            android:text="Register -"
            android:textSize="20sp"/>
        <TextView
            android:id="@+id/reg"
            android:layout_below="@+id/name"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_toRightOf="@+id/dept"
            android:textSize="20sp"/>
        <TextView
```

```xml
                android:layout_below="@+id/register"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/dept"
                android:text="Department -"
                android:textSize="20sp"/>
            <TextView
                android:id="@+id/dep"
                android:layout_below="@+id/register"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_toRightOf="@+id/dept"
                android:textSize="20sp"/>
            <TextView
                android:layout_below="@+id/dept"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:id="@+id/sem1"
                android:text="semester -"
                android:textSize="20sp"/>
            <TextView
                android:layout_below="@+id/dept"
                android:id="@+id/sem"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_toRightOf="@+id/dept"
                android:textSize="20sp"/>
        </RelativeLayout>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical"
        android:layout_marginLeft="10dp"
        android:layout_marginRight="10dp" >
        <RelativeLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:background="@drawable/marks">
            <TextView
                android:id="@+id/head"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="UPLOAD MARKS"
                android:textSize="20sp"
                android:textStyle="bold"
                android:layout_marginLeft="20dp"/>
            <Spinner
                android:id="@+id/mark1"
                android:layout_width="200dp"
                android:layout_height="40dp"
                android:layout_below="@+id/head"
                android:layout_marginTop="20dp"
                android:entries="@array/marks"/>
            <EditText
                android:id="@+id/mark11"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
```

```xml
            android:layout_below="@+id/head"
            android:layout_marginLeft="10dp"
            android:layout_marginTop="20dp"
            android:layout_toRightOf="@+id/mark1" />
        <Spinne
            android:id="@+id/mark2"
            android:layout_width="200dp"
            android:layout_height="40dp"
            android:layout_below="@+id/mark1"
            android:layout_marginTop="20dp"
            android:entries="@array/marks"/>
        <EditText
            android:id="@+id/mark12"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@+id/mark1"
            android:layout_marginLeft="10dp"
            android:layout_marginTop="20dp"
            android:layout_toRightOf="@+id/mark2" />
        <Spinner
            android:id="@+id/mark3"
            android:layout_width="200dp"
            android:layout_height="40dp"
            android:layout_below="@+id/mark2"
            android:layout_marginTop="20dp"
            android:entries="@array/marks"/>
        <EditText
            android:id="@+id/mark13"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@+id/mark2"
            android:layout_marginLeft="10dp"
            android:layout_marginTop="20dp"
            android:layout_toRightOf="@+id/mark3" />
        <Spinner
            android:id="@+id/mark4"
            android:layout_width="200dp"
            android:layout_height="40dp"
            android:layout_below="@+id/mark3"
            android:layout_marginTop="20dp"
            android:entries="@array/marks"/>
        <EditText
            android:id="@+id/mark14"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@+id/mark3"
            android:layout_marginLeft="10dp"
            android:layout_marginTop="20dp"
            android:layout_toRightOf="@+id/mark4" />
    </RelativeLayout>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="UPLOAD MARKS"
        android:id="@+id/mark"/>
  </LinearLayout>
</LinearLayout>
```

Activity_main4.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity4"
    android:orientation="vertical" >
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="DATA"
        android:textStyle="bold"
        android:textSize="20sp"
        android:layout_gravity="center"/>
    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:layout_marginLeft="20dp">
        <TextView
            android:id="@+id/msg1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="NAME :"
            android:textSize="20sp"/>
        <TextView
            android:id="@+id/msg2"
            android:layout_below="@+id/msg1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="REGISTER :"
            android:textSize="20sp"/>
        <TextView
            android:id="@+id/msg3"
            android:layout_below="@+id/msg2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="DEPARTMENT :"
            android:textSize="20sp"/>
        <TextView
            android:id="@+id/msg4"
            android:layout_below="@+id/msg3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="SEMSTER :"
            android:textSize="20sp"/>
        <TextView
            android:id="@+id/msg5"
            android:layout_below="@+id/msg4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="TOTAL :"
            android:textSize="20sp"/>
        <TextView
            android:id="@+id/name"
```

```xml
        android:layout_toRightOf="@+id/msg3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="20sp"/>
<TextView
    android:id="@+id/reg"
    android:layout_below="@+id/name"
    android:layout_toRightOf="@+id/msg3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"/>
<TextView
    android:id="@+id/dep"
    android:layout_below="@+id/reg"
    android:layout_toRightOf="@+id/msg3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"/>
<TextView
    android:id="@+id/sem"
    android:layout_below="@+id/dep"
    android:layout_toRightOf="@+id/msg3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"/>
<TextView
    android:id="@+id/tot"
    android:layout_below="@+id/sem"
    android:layout_toRightOf="@+id/msg3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"/>
<TextView
    android:id="@+id/mk_msg1"
    android:layout_below="@+id/msg5"
    android:text="MARK1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"/>
<TextView
    android:id="@+id/mk_msg2"
    android:layout_below="@+id/msg5"
    android:layout_toRightOf="@+id/mk_msg1"
    android:layout_marginLeft="10dp"
    android:text="MARK2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"/>
<TextView
    android:id="@+id/mk_msg3"
    android:layout_below="@+id/msg5"
    android:layout_toRightOf="@+id/mk_msg2"
    android:layout_marginLeft="10dp"
    android:text="MARK3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"/>
```

```xml
    <TextView
        android:id="@+id/mk_msg4"
        android:layout_below="@+id/msg5"
        android:layout_toRightOf="@+id/mk_msg3"
        android:layout_marginLeft="10dp"
        android:text="MARK4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="20sp"/>
    <TextView
        android:id="@+id/mk1"
        android:layout_below="@+id/mk_msg4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TOTAL :"
        android:textSize="20sp"/>
    <TextView
        android:id="@+id/mk2"
        android:layout_below="@+id/mk_msg4"
        android:layout_toRightOf="@id/mk1"
        android:layout_marginLeft="40dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TOTAL :"
        android:textSize="20sp"/>
    <TextView
        android:id="@+id/mk3"
        android:layout_below="@+id/mk_msg4"
        android:layout_toRightOf="@id/mk2"
        android:layout_marginLeft="40dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TOTAL :"
        android:textSize="20sp"/>
    <TextView
        android:id="@+id/mk4"
        android:layout_below="@+id/mk_msg4"
        android:layout_toRightOf="@id/mk3"
        android:layout_marginLeft="40dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="TOTAL :"
        android:textSize="20sp"/>
  </RelativeLayout>
  <Button
      android:id="@+id/new_dt"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_gravity="end"
      android:layout_marginTop="40dp"
      android:text="BACK" />
</LinearLayout>
```

Main_Activity.java

```java
package com.example.studentportal;
import androidx.activity.result.ActivityResult;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
```

```java
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.ImageView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
EditText name2,reg2;
Button sub;
  @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      name2 = findViewById(R.id.name);
      reg2 = findViewById(R.id.register);
      sub = findViewById(R.id.submit);
      sub.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            Intent info = new Intent(getApplicationContext(),sudentinformation.class);
            Bundle data = new Bundle();
            String name = name2.getText().toString().trim();
            data.putString("name",name);
            data.putString("name1",name2.getText().toString().trim());
            data.putString("reg1",reg2.getText().toString().trim());
            info.putExtras(data);
            startActivity(info);
        }
     });
   }
}
```

studentinformation.java

```java
package com.example.studentportal;
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;
import android.widget.RadioButton;
import android.widget.Spinner;
import android.widget.Toast;
public class sudentinformation extends AppCompatActivity {
 Button sub,up;
 EditText name,email,pho,reg;
 Spinner dep,semster;
  @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_sudentinformation);
      Intent info = getIntent();
      Bundle data = info.getExtras();
      sub = findViewById(R.id.submit);
      dep = findViewById(R.id.dept);
      semster = findViewById(R.id.sem);
      name = findViewById(R.id.stname);
```

```java
        reg = findViewById(R.id.reg);
        name.setText(data.getString("name"));
        reg.setText(data.getString("reg1"));
        email = findViewById(R.id.mail);
        pho = findViewById(R.id.phone);
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (email.getText().toString().isEmpty()) {
                    Toast.makeText(sudentinformation.this, "ENTER MAIL",
                    Toast.LENGTH_SHORT).show();
                } else if (pho.getText().toString().isEmpty()) {
                    Toast.makeText(sudentinformation.this, "ENTER PHONE",
                    Toast.LENGTH_SHORT).show();
                } else {
                    Intent upload = new Intent(getApplicationContext(), upload_marks.class);
                    String username = name.getText().toString().trim();
                    String register = reg.getText().toString().trim();
                    String sem, dept1;
                    sem = semster.getSelectedItem().toString();
                    dept1 = dep.getSelectedItem().toString();
                    Bundle data2 = new Bundle();
                    data2.putString("name3", username);
                    data2.putString("reg3", register);
                    data2.putString("sem3", sem);
                    data2.putString("dep3", dept1);
                    upload.putExtras(data2);
                    startActivity(upload);
                }
            }
        });
    }
}
```

Upload_marks.java

```java
package com.example.studentportal;
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;
import android.widget.TextView;
import android.widget.Toast;
public class upload_marks extends AppCompatActivity {
    TextView nam, reg1, dep1, sem1;
    Button mrk;
    EditText mrk1,mrk2,mrk3,mrk4;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_upload_marks);
        nam= findViewById(R.id.name1); // reg,dep,sem
        reg1 = findViewById(R.id.reg);
        dep1 = findViewById(R.id.dep);
        sem1 = findViewById(R.id.sem);
        Intent upload = getIntent();
```

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```java
            Bundle data2 = upload.getExtras();
            String n,r,d,m;
            n=data2.getString("name3");
            r=data2.getString("reg3");
            d=data2.getString("sem3");
            m=data2.getString("dep3");
            nam.setText(n);
            reg1.setText(r);//sem3,de3
            dep1.setText(d);
            sem1.setText(m);
            mrk = findViewById(R.id.mark);
            mrk1 = findViewById(R.id.mark11);
            mrk2 = findViewById(R.id.mark12);
            mrk3 = findViewById(R.id.mark13);
            mrk4 = findViewById(R.id.mark14);
            mrk.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    Intent upload = getIntent();
                    Bundle data2 = upload.getExtras();
                    String n,r,d,s;
                    String name = nam.getText().toString().trim();
                    r=data2.getString("reg3");
                    s=data2.getString("sem3");
                    d=data2.getString("de3");
                    Intent display = new Intent(getApplicationContext(), MainActivity4.class);
                    Bundle data4 = new Bundle();
                    data4.putString("name4",name);
                    data4.putString("reg4",r);
                    data4.putString("dep4",d);
                    data4.putString("sem4",s);
                            Double mk1,mk2,mk3,mk4;
                   mk1 = Double.parseDouble(mrk1.getText().toString().trim());
                   mk2 = Double.parseDouble(mrk2.getText().toString().trim());
                   mk3 = Double.parseDouble(mrk3.getText().toString().trim());
                   mk4 = Double.parseDouble(mrk4.getText().toString().trim());
                    data4.putDouble("mark1",mk1);
                    data4.putDouble("mark2",mk2);
                    data4.putDouble("mark3",mk3);
                    data4.putDouble("mark4",mk4);
                    Double total = mk1 + mk2 + mk3 + mk4;
                    data4.putDouble("tot",total);
                    String total1 = total.toString();
                    display.putExtras(data4);
                    startActivity(display);
                }
            });
    }
}
```

MainActivity4.java

```java
package com.example.studentportal;
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;
```

```java
public class MainActivity4 extends AppCompatActivity {
    Button reset;
    TextView name1,reg1,dept1,sem1,tot1;
    TextView mrk_1,mrk_2,mrk_3,mrk_4;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main4);
        reset = findViewById(R.id.new_dt);
        name1 = findViewById(R.id.name);
        reg1 = findViewById(R.id.reg);
        dept1 = findViewById(R.id.dep);
        sem1 = findViewById(R.id.sem);
        tot1 = findViewById(R.id.tot);
        mrk_1 =findViewById(R.id.mk1);
        mrk_2 =findViewById(R.id.mk2);
        mrk_3 =findViewById(R.id.mk3);
        mrk_4 =findViewById(R.id.mk4);
        Intent display = getIntent();
        Bundle data4 = display.getExtras();
        name1.setText(data4.getString("name4"));
        reg1.setText(data4.getString("reg4"));
        dept1.setText(data4.getString("dep4"));
        sem1.setText(data4.getString("sem4"));
        tot1.setText(data4.getString("total"));
        Double m1,m2,m3,m4;
        m1=data4.getDouble("mark1");
        m2= data4.getDouble("mark2");
        m3= data4.getDouble("mark3");
        m4= data4.getDouble("mark4");
        mrk_1.setText(m1.toString());
        mrk_2.setText(m2.toString());
        mrk_3.setText(m3.toString());
        mrk_4.setText(m4.toString());
        reset.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            finish();
        }
    });
    }
}
```

RESULT

Created multiple activities using explicit intent and send data betwwen them using BUNDLE

EXPERIMENT 11 DATE:25/01/24
SETACTIVITY RESULT

AIM: Develop an Android application using explicit intent and startactivityforresult

program
AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools">
  <application
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.MultiRegVersion2">
    <activity
      android:name=".MainActivity2"
      android:exported="false" />
    <activity
      android:name=".MainActivity"
      android:exported="true">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>
</manifest>
```

login.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<selector xmlns:android="http://schemas.android.com/apk/res/android">
<item>
  <shape android:shape="rectangle" >
    <solid android:color="#00C368" />
    <stroke android:color="#000" android:width="2dp"/>
    <corners android:radius="10dp"/>
  </shape>
</item>
</selector>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  tools:context=".MainActivity2"
  android:orientation="vertical"
  android:gravity="center"
  android:background="@drawable/back">
  <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
```

```
        android:text="LOGIN INTO APPLICATION"
        android:textSize="20sp"
        android:textStyle="bold"
        android:textColor="#0B6DFF"
        android:layout_gravity="center"/>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginRight="10dp"
        android:layout_marginLeft="10dp"
        android:orientation="vertical">
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="USER NAME"
            android:textStyle="bold"
            android:textSize="20sp"
            android:layout_marginTop="10dp"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:id="@+id/username1"
            android:background="@drawable/login" />
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="PASSWORD"
            android:textStyle="bold"
            android:textSize="20sp"
            android:layout_marginTop="10dp"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:id="@+id/password1"
            android:inputType="textPassword"
            android:background="@drawable/login"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="CONFIRM PASSWORD"
            android:textStyle="bold"
            android:textSize="20sp"
            android:layout_marginTop="10dp"/>
        <EditText
            android:layout_width="match_parent"
            android:layout_height="40dp"
            android:id="@+id/confirm"
            android:inputType="textPassword"
            android:background="@drawable/login"/>
        <RelativeLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="20dp"
            android:layout_marginStart="10dp">
            <Button
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
```

```
            android:id="@+id/login"
            android:text="LOGIN"/>
        <TextView
            android:textSize="15sp"
            android:id="@+id/mess"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/login"
            android:text="if you dont have an account?"/>
        <TextView
            android:textSize="15sp"
            android:id="@+id/reg"
            android:textColor="#094DF8"
            android:layout_toRightOf="@+id/mess"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/login"
            android:text="Register Now!"/>
    </RelativeLayout>
  </LinearLayout>
</LinearLayout>
```

Activity_main2.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=".MainActivity2"
  android:orientation="vertical"
  android:gravity="center"
  android:background="@drawable/bck2">
  <TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="SIGN UP INTO APPLICATION"
    android:textSize="20sp"
    android:textStyle="bold"
    android:layout_gravity="center"/>
  <LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="10dp"
    android:layout_marginRight="10dp"
    android:orientation="vertical">
    <TextView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:layout_marginTop="10dp"
      android:text="USER NAME"
      android:textSize="20sp"
      android:textStyle="bold" />
    <EditText
      android:id="@+id/username"
      android:layout_width="match_parent"
      android:layout_height="40dp"
```

```xml
        android:background="@drawable/login"
        android:inputType="text"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="EMAIL ADDRESS"
        android:textSize="20sp"
        android:textStyle="bold" />
    <EditText
        android:id="@+id/email"
        android:layout_width="match_parent"
        android:layout_height="40dp"
        android:background="@drawable/login"
        android:inputType="textEmailAddress" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="PHONE NUMBER"
        android:textSize="20sp"
        android:textStyle="bold" />
    <EditText
        android:id="@+id/phone"
        android:layout_width="match_parent"
        android:layout_height="40dp"
        android:background="@drawable/login"
        android:inputType="phone" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="PASSWORD"
        android:textSize="20sp"
        android:textStyle="bold" />
    <EditText
        android:id="@+id/password"
        android:layout_width="match_parent"
        android:layout_height="40dp"
        android:background="@drawable/login"
        android:inputType="textPassword" />
    <Button
        android:layout_marginTop="20dp"
        android:id="@+id/sign"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="sign up" />
</LinearLayout>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal">
    <TextView
        android:layout_marginLeft="10dp"
        android:id="@+id/message1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
                    android:text="If you have account?"
                    android:textSize="17sp" />
                <TextView
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="Login now!"
                    android:textSize="17sp"
                    android:id="@+id/login_btn"
                    android:textColor="#098"/>
        </LinearLayout>
</LinearLayout>
```

MainActivity.java

```java
package com.example.multiregversion2;
import androidx.activity.result.ActivityResult;
import androidx.activity.result.ActivityResultCallback;
import androidx.activity.result.ActivityResultLauncher;
import androidx.activity.result.contract.ActivityResultContract;
import androidx.activity.result.contract.ActivityResultContracts;
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;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    TextView register;
    Button btn;
    EditText user1,pass1,conf;
    ActivityResultLauncher<Intent> outputLauncher = registerForActivityResult(
            new ActivityResultContracts.StartActivityForResult(), new
        ActivityResultCallback<ActivityResult>() {
            @Override
            public void onActivityResult(ActivityResult result) {
                if (result.getResultCode() == 101){
                    Intent login = result.getData();
                    Bundle data = login.getExtras();
                    String user = data.getString("username");
                    String pass = data.getString("password");
                    user1.setText(user);
                    pass1.setText(pass);
                }

            }
        }
    );
    ActivityResultLauncher<Intent> loginLauncher = registerForActivityResult(
            new ActivityResultContracts.StartActivityForResult(), new
        ActivityResultCallback<ActivityResult>() {
            @Override
            public void onActivityResult(ActivityResult result) {
             if (result.getResultCode() ==102){


             }
            }
        }
```

```java
        );
        @Override
        protected void onCreate(Bundle savedInstanceState) {
            super.onCreate(savedInstanceState);
            setContentView(R.layout.activity_main);
            conf = findViewById(R.id.confirm);
            btn = findViewById(R.id.login);
            user1 = findViewById(R.id.username1);
            pass1 = findViewById(R.id.password1);
            register = findViewById(R.id.reg);
            register.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    Intent sign_in = new Intent(getApplicationContext(), MainActivity2.class);
                    outputLauncher.launch(sign_in);
                }
            });
            btn.setOnClickListener(new View.OnClickListener() {
                @Override
                public void onClick(View v) {
                    if (user1.getText().toString().isEmpty()){
                        Toast.makeText(MainActivity.this, "Enter Name", Toast.LENGTH_SHORT).show();
                    }
                    if (pass1.getText().toString().equals(conf.getText().toString()))
                    {
                        Toast.makeText(MainActivity.this, " Logged In ", Toast.LENGTH_SHORT).show();
                    }
                    else{
                        Toast.makeText(MainActivity.this, "Password Do Not Match",
                        Toast.LENGTH_SHORT).show();
                    }
                }
            });
        }
}
```

MainActivity2.java

```java
package com.example.multiregversion2;
import androidx.activity.result.ActivityResult;
import androidx.activity.result.ActivityResultCallback;
import androidx.activity.result.ActivityResultLauncher;
import androidx.activity.result.contract.ActivityResultContract;
import androidx.activity.result.contract.ActivityResultContracts;
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;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity2 extends AppCompatActivity {
    Button reg_btn;
    TextView log_btn;
    EditText user,mail,pho,pass;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```java
        setContentView(R.layout.activity_main2);
        user =findViewById(R.id.username);
        mail =findViewById(R.id.email);
        pho = findViewById(R.id.phone);
        pass =findViewById(R.id.password);
        reg_btn = findViewById(R.id.sign);
        log_btn = findViewById(R.id.login_btn);
        reg_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (user.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "enter name", Toast.LENGTH_SHORT).show();
                } else if (mail.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "enter email", Toast.LENGTH_SHORT).show();
                } else if (pho.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "Enter phone",
                    Toast.LENGTH_SHORT).show();
                } else if (pass.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "enter password",
                    Toast.LENGTH_SHORT).show();
                } else {
                    Intent login = new Intent(getApplicationContext(), MainActivity.class);
                    Bundle data = new Bundle();
                    data.putString("username", user.getText().toString().trim());
                    data.putString("password", pass.getText().toString().trim());
                    login.putExtras(data);
                    setResult(101, login);
                    finish();
                }
            }
        });
        log_btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent log = new Intent(getApplicationContext(),MainActivity.class);
                setResult(102,log);
                finish();
            }
        });
    }
```

RESULT

Developed android application Successfully set result activity using
explicit intent

EXPERIEMNT 12   DATE:20/01/24
MENUS IN ANDROID

AIM:create an android application to show options menu,context menu,popup menu

Program
AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools">
  <application
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.Menus">
    <activity
      android:name=".MainActivity"
      android:exported="true">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>
</manifest>
```

Options.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto">
  <item  android:id="@+id/data" android:title="data"
    android:icon="@drawable/data"
    app:showAsAction="ifRoom" />
  <item  android:id="@+id/fil" android:title="FILE">
    <menu>
     <item android:id="@+id/about" android:title="ABOUT"/>
     <item android:id="@+id/ref" android:title="REFRESH"/>
     <item android:id="@+id/clr" android:title="CLEAR"/>
    </menu>
  </item>
  <item android:id="@+id/abo1" android:title="ABOUT"/>
  <item android:id="@+id/ref1" android:title="REFRESH"/>
  <item android:id="@+id/clr1" android:title="CLEAR"/>
</menu>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  tools:context=".MainActivity"
  android:gravity="center"
  android:background="#EDDB9C"
  android:orientation="vertical">
  <LinearLayout
```

```xml
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center"
        android:orientation="vertical">
        <TextView
            android:id="@+id/text"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="CONTEXT MENUS"
            android:textSize="20sp"
            android:textStyle="bold" />
        <Button
            android:id="@+id/button"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="PRESS FOR MENUS"
            android:textSize="20sp"
            android:textStyle="bold"
            android:layout_marginTop="30dp"/>
    </LinearLayout>
</LinearLayout>
```

Mainactivity.java

```java
package com.example.menus;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.ContextMenu;
import android.view.Menu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.PopupMenu;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity implements
PopupMenu.OnMenuItemClickListener {
 TextView context;
 Button pop;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      context = findViewById(R.id.text);
      pop = findViewById(R.id.button);
      registerForContextMenu(context);
      pop.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
         showPopup(v);
      }
   });
   }
   @Override
   public void onCreateContextMenu(ContextMenu menu, View v,
ContextMenu.ContextMenuInfo menuInfo) {
      MenuInflater con = getMenuInflater();
```

```java
      con.inflate(R.menu.options,menu);
      super.onCreateContextMenu(menu, v, menuInfo);
   }
   @Override
   public boolean onCreateOptionsMenu(Menu menu) {
      MenuInflater options = getMenuInflater();
      options.inflate(R.menu.options,menu);
      return super.onCreateOptionsMenu(menu);
   }
   @Override
   public boolean onOptionsItemSelected(@NonNull MenuItem item) {
      if (item.getItemId()==R.id.fil){
         Toast.makeText(this, "FILE SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.about) {
         Toast.makeText(this, "about SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.ref) {
         Toast.makeText(this, "refresh SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.clr) {
         Toast.makeText(this, "clear SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.abo1) {
         Toast.makeText(this, "about SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.ref1) {
         Toast.makeText(this, "refresh SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.clr1) {
         Toast.makeText(this, "clear SELECTED", Toast.LENGTH_SHORT).show();
      }
      return super.onOptionsItemSelected(item);
   }

   @Override
   public boolean onContextItemSelected(@NonNull MenuItem item) {
      if (item.getItemId()==R.id.fil){
         Toast.makeText(this, "FILE SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.about) {
         Toast.makeText(this, "about SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.ref) {
         Toast.makeText(this, "refresh SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.clr) {
         Toast.makeText(this, "clear SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.abo1) {
         Toast.makeText(this, "about SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.ref1) {
         Toast.makeText(this, "refresh SELECTED", Toast.LENGTH_SHORT).show();
      } else if (item.getItemId()==R.id.clr1) {
         Toast.makeText(this, "clear SELECTED", Toast.LENGTH_SHORT).show();
      }
      return super.onContextItemSelected(item);
   }
   public void showPopup(View v){
      PopupMenu pop = new PopupMenu(this,v);
      pop.setOnMenuItemClickListener(this);
      pop.inflate(R.menu.options);
      pop.show();
   }
   @Override
   public boolean onMenuItemClick(MenuItem item) {
      if (item.getItemId()==R.id.fil){
```

```java
          Toast.makeText(this, "FILE SELECTED", Toast.LENGTH_SHORT).show();
       } else if (item.getItemId()==R.id.about) {
          Toast.makeText(this, "about SELECTED", Toast.LENGTH_SHORT).show();
       } else if (item.getItemId()==R.id.ref) {
          Toast.makeText(this, "refresh SELECTED", Toast.LENGTH_SHORT).show();
       } else if (item.getItemId()==R.id.clr) {
          Toast.makeText(this, "clear SELECTED", Toast.LENGTH_SHORT).show();
       } else if (item.getItemId()==R.id.abo1) {
          Toast.makeText(this, "about SELECTED", Toast.LENGTH_SHORT).show();
       } else if (item.getItemId()==R.id.ref1) {
          Toast.makeText(this, "refresh SELECTED", Toast.LENGTH_SHORT).show();
       } else if (item.getItemId()==R.id.clr1) {
          Toast.makeText(this, "clear SELECTED", Toast.LENGTH_SHORT).show();
       }
       return super.onOptionsItemSelected(item);
   }
}
```

<u>RESULT</u>
Successfully developed an android application and displayed options
menu,context menu,popup menu

LISTVIEW,SPINNER WITH BUILT IN ADAPTER

<u>AIM</u>:create an android application and use Built In adapter to set data to list view and spinner

<u>program</u>
<u>AndroidManifest.xml</u>

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Adapter">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

<u>Activity_main.xml</u>

```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"
    android:background="#ffff"
    android:orientation="vertical"
    android:layout_gravity="center">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Students of CHE"
        android:layout_gravity="center"
        android:textSize="20sp"
        android:textStyle="bold" />
    <ListView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/list"
        android:divider="@color/black"
        android:dividerHeight="2dp"/>
    <Spinner
        android:layout_width="match_parent"
        android:background="#786666"
        android:layout_height="wrap_content"
        android:id="@+id/spinner"
```

```
        android:layout_margin="10dp"/>
</LinearLayout>
```

MainActivity.java

```java
package com.example.adapter;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Spinner;
import java.util.ArrayList;
public class MainActivity extends AppCompatActivity {
    ListView list1;
    Spinner spin;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        list1 = findViewById(R.id.list);
        spin = findViewById(R.id.spinner);
        ArrayList<String> array1 = new ArrayList<>();
        array1.add("ADIN");
        array1.add("Abhinav");
        array1.add("Adarsh");
        array1.add("Sujith");
        array1.add("Nandhu");
        array1.add("Akash p");
        ArrayAdapter<String> adapt = new ArrayAdapter<String>(getApplicationContext(),
         android.R.layout.simple_list_item_1,array1);
        list1.setAdapter(adapt);
        spin.setAdapter(adapt);
    }
}
```

RESULT

Successful set array to listview and spinner using built in adapter in android

EXPERIMENT 14   DATE:06/02/24
LIST VIEW WITH BASE ADAPTER

AIM: create an android application to set data to listview using BASE ADAPTER

Program
AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Adapter4">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

Activity_Main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Car Brands"
        android:textStyle="bold"
        android:textSize="18sp"
        android:layout_gravity="center"/>
    <View
        android:layout_width="match_parent"
        android:layout_height="3dp"
        android:background="#000"/>
    <ListView
        android:layout_marginTop="20dp"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:divider="@color/black"
        android:dividerHeight="2dp"
        android:id="@+id/list1"/>
</LinearLayout>
```

List_view.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <ImageView
        android:layout_width="100dp"
        android:layout_height="100dp"
        android:id="@+id/image"
        android:src="@drawable/polo"/>
    <TextView
        android:id="@+id/text"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="ufidsaf"
        android:textSize="20sp"
        android:textStyle="bold"
        android:layout_marginTop="30dp"
        android:layout_marginLeft="40dp"/>
</LinearLayout>
```

MainActivity.java

```java
package com.example.adapter4;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.GridView;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    String[] text = {"Mistubushi","Wolkswagen","Mini cooper","Toyota","Mercedes Benz","B
M W"};
    int[] image =
{R.drawable.mis,R.drawable.polo,R.drawable.mini,R.drawable.toyota,R.drawable.benz,R.dra
wable.bmw};
    ListView layout;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        layout = findViewById(R.id.list1);
        adapter adapt = new adapter(getApplicationContext(),text,image);
        layout.setAdapter(adapt);
        layout.setOnItemClickListener(new AdapterView.OnItemClickListener() {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
                TextView txt=view.findViewById(R.id.text);
                Toast.makeText(MainActivity.this, txt.getText().toString(),
                Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```

Adapter.java

```java
package com.example.adapter4;
import android.content.Context;
import android.media.Image;
import android.view.LayoutInflater;
import android.view.View;
import android.widget.BaseAdapter;
import android.widget.ImageView;
import android.widget.TextView;
public class adapter extends BaseAdapter {
    Context context;
    String [] txt;
    int[]img;
    LayoutInflater insert;
    public adapter(Context context ,String[]txt,int[]img) {
        this.context = context;
        this.txt =txt;
        this.img = img;
        this.insert = LayoutInflater.from(context);
    }
    @Override
    public int getCount() {return txt.length; }
    @Override
    public Object getItem(int position) {  return null; }
    @Override
    public long getItemId(int position) { return 0; }
    @Override
    public View getView(int position, View convertView, ViewGroup parent) {
        convertView = insert.inflate(R.layout.list_view,null);
        ImageView img3 = convertView.findViewById(R.id.image);
        TextView txt3 = convertView.findViewById(R.id.text);
        img3.setImageResource(img[position]);
        txt3.setText(txt[position]);
        return convertView;
    }
}
```

RESULT

Developed an android application and used base adapter to set data to listview

GRID VIEW WITH BASE ADAPTER

AIM: create an android application to set data to Grid View using BASE ADAPTER

program
AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Adapter2">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</ manifest>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:layout_marginLeft="10dp"
    android:layout_marginRight="10dp"
    android:orientation="vertical">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="CAR GRID VIEW"
        android:textSize="18sp"
        android:layout_gravity="center"
        android:textStyle="bold"/>
    <GridView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/grid"
        android:numColumns="3"/>
</LinearLayout>
```

Grid_display.xml

```xml
<xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center">
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/img" />
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:paddingLeft="20dp"
        android:textStyle="bold"
        android:text="HELLO"
        android:id="@+id/text"
        android:layout_below="@+id/img"
        android:layout_marginLeft="20dp"/>
</RelativeLayout>
```

MainActivity.java

```java
package com.example.adapter2;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.GridView;
public class MainActivity extends AppCompatActivity {
 String[] text = {"CAR","CAR","CAR","CAR","CAR","CAR","CAR","CAR","CAR"};
 int[] image =
{R.drawable.car,R.drawable.car,R.drawable.car,R.drawable.car,R.drawable.car,R.drawable.car,R.drawable.car,R.drawable.car,R.drawable.car};
 GridView layout;
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    layout = findViewById(R.id.grid);
    custom adapt = new custom(getApplicationContext(),text,image);
    layout.setAdapter(adapt);
  }
}
```

Cutsom.java

```java
package com.example.adapter2;
import android.content.Context;
import android.media.Image;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.BaseAdapter;
import android.widget.ImageView;
import android.widget.TextView;
public class custom extends BaseAdapter {
    Context context;
    String [] txt;
```

```
        int[]img;
        LayoutInflater insert;
        public custom(Context context ,String[]txt,int[]img) {
            this.context = context;
            this.txt =txt;
            this.img = img;
            this.insert = LayoutInflater.from(context);
        }
        @Override
        public int getCount() {
            return txt.length;
        }
        @Override
        public Object getItem(int position) {
            return null;
        }
        @Override
        public long getItemId(int position) {
            return 0;
        }
        @Override
        public View getView(int position, View convertView, ViewGroup parent) {
            convertView = insert.inflate(R.layout.grid_display,null);
            ImageView img3 = convertView.findViewById(R.id.img);
            TextView txt3 = convertView.findViewById(R.id.text);
            img3.setImageResource(img[position]);
            txt3.setText(txt[position]);
            return convertView;
        }
    }
}
```

RESULT

Developed an android application and used base adapter to set data to
Grid view

EXPERIMENT 16 DATE:20/02/24
LISTVIEW WITH ARRAY ADAPTER
AIM: develop an android applictaion which shows the use of Array adapter in listview

Program

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.Adapter3"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:layout_marginLeft="5dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SOLAR SYSTEM"
        android:layout_gravity="center"
        android:textSize="20dp"
        android:textStyle="bold"/>
    <ListView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/list"
        android:divider="#000"
        android:dividerHeight="2dp"/>
</LinearLayout>
```

listview.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
```

```xml
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginLeft="15dp"
        android:layout_marginRight="5dp"
        android:paddingTop="10dp">
        <ImageView
            android:layout_width="80dp"
            android:layout_height="80dp"
            android:scaleType="fitXY"
            android:id="@+id/image"
            android:src="@drawable/mars1"
            android:layout_marginBottom="10dp"
            android:layout_marginRight="10dp"/>
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/name"
            android:textSize="18sp"
            android:text="Hello"
            android:layout_marginTop="10dp"/>
        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/price"
            android:textSize="18sp"
            android:text="Hello"
            android:layout_marginTop="10dp"/>
    </LinearLayout>
</LinearLayout>
```

MainActivity.java

```java
package com.example.adapter3;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.GridView;
import android.widget.ListView;
import android.widget.TextView;
import android.widget.Toast;
import java.util.ArrayList;
public class MainActivity extends AppCompatActivity {
    ListView list1;
    String[] name
={"Earth","Moon","Venus","Jupiter","Saturn","Mars","Earth","Moon","Venus","Jupiter","Saturn","Mars"};
    String[] price ={"Our Home Planet we live in it","Our Neighbour Planet","Our Neighbour
Planet","Our Neighbour Planet","Our Neighbour Planet","Our Neighbour Planet","Our Home
Planet we live in it","Our Neighbour Planet","Our Neighbour Planet","Our Neighbour
Planet","Our Neighbour Planet","Our Neighbour Planet"};
    int[] img =
{R.drawable.earth3,R.drawable.moon,R.drawable.venus,R.drawable.jupiter,R.drawable.satu
```

```
rn,R.drawable.mars1,R.drawable.earth3,R.drawable.moon,R.drawable.venus,R.drawable.jup
iter,R.drawable.saturn,R.drawable.mars1};
   ArrayList array_car;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      list1 = findViewById(R.id.list);
      array_car=new ArrayList<>();
      for(int i=0;i<name.length;i++){
         array_car.add(new planets(name[i],price[i],img[i]));
      }
      custom adapt = new custom(getApplication(),array_car,R.layout.listview);
      list1.setAdapter(adapt);
      list1.setOnItemClickListener(new AdapterView.OnItemClickListener() {
         @Override
         public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
            TextView name=view.findViewById(R.id.name);
            Toast.makeText(MainActivity.this, name.getText().toString(),
               Toast.LENGTH_SHORT).show();
         }
      });
   }
}
```

Custom.java

```
package com.example.adapter3;
import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ArrayAdapter;
import android.widget.ImageView;
import android.widget.TextView;
import androidx.annotation.NonNull;
import java.util.ArrayList;
public class custom extends ArrayAdapter<planets> {
   Context context;
   String [] txt;
   int[]img;
   ArrayList<planets> list;
   LayoutInflater insert;
   public custom(Context a,ArrayList<planets> b,int c) {
      super(a, c, b);
      this.context = a;
      this.list=b;
   }
   @Override
   public int getCount() {
      return list.size();
   }
   @Override
   public planets getItem(int position) {
      return null;
   }
   @Override
   public long getItemId(int position) {
```

```java
        return 0;
    }
    @Override
    public View getView(int position, View convertView, @NonNull ViewGroup parent) {
        View v = convertView;
        v=LayoutInflater.from(getContext()).inflate(R.layout.listview,parent,false);
        ImageView img3 = v.findViewById(R.id.image);
        TextView name3 = v.findViewById(R.id.name);
        TextView price3=v.findViewById(R.id.price);
        img3.setImageResource(list.get(position).getImg());
        name3.setText(list.get(position).getName());
        price3.setText(list.get(position).getPrice());
        return v;
    }
}
```

planets.java

```java
package com.example.adapter3;
public class planets {
    String name;
    String price;
    int img;
    public planets(String name, String price, int img) {
        this.name = name;
        this.price = price;
        this.img = img;
    }
    public String getName() {
        return name;
    }
    public String getPrice() {
        return price;
    }
    public int getImg() {
        return img;
    }
}
```

RESULT

Developed an android application and used arrayadpter to set data to list view

SHARED PREFERNCES

AIM:develop an android application demostrate the use of shared prefernce in android

Program

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.SharedPreference"
        tools:targetApi="31">
        <activity
            android:name=".MainActivity2"
            android:exported="false" />
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LogIn"
        android:textStyle="bold"
        android:textSize="20sp"/>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/user1"
        android:layout_margin="10dp"
        android:hint="User Name"
```

```xml
            app:helperText="Required*"
            app:helperTextTextColor="#F80202"
            app:counterEnabled="true"
            app:counterMaxLength="10"
            app:endIconMode="clear_text"
            app:startIconDrawable="@drawable/user">
            <com.google.android.material.textfield.TextInputEditText
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:id="@+id/user"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/mail1"
        android:layout_margin="10dp"
        android:hint="Password"
        app:helperText="Required*"
        app:helperTextTextColor="#F80202"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/pass">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
            android:inputType="textPassword"
            android:layout_height="wrap_content"
            android:id="@+id/pass"/>
    </com.google.android.material.textfield.TextInputLayout>
    <RelativeLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:gravity="center">
        <Button
            android:id="@+id/login"
            style="?attr/materialButtonOutlinedStyle"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginRight="5dp"
            android:padding="10dp"
            android:text="LOGIN"
            app:icon="@drawable/login"
            app:cornerRadius="20dp" />
        <Button
            android:id="@+id/clear"
            android:layout_toRightOf="@+id/login"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Clear"
            app:cornerRadius="20dp"
            app:icon="@drawable/clear"
            android:padding="10dp"
            android:layout_marginRight="5dp"
            style="?attr/materialButtonOutlinedStyle"/>
        <Button
            android:id="@+id/reg"
            android:layout_toRightOf="@+id/clear"
            android:layout_width="wrap_content"
```

```xml
                android:layout_height="wrap_content"
                android:text="Register "
                app:cornerRadius="20dp"
                app:icon="@drawable/register"
                android:padding="10dp"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
        </RelativeLayout>
          <CheckBox
                android:layout_marginRight="130dp"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Remeber Me"
                android:id="@+id/remeber"/>
    </LinearLayout>
```

Activity_Main2.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="center">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Register Into APP"
        android:textStyle="bold"
        android:textSize="20sp"/>
    <com.google.android.material.textfield.TextInputLayout
     style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/user1"
        android:layout_margin="10dp"
        android:hint="User Name"
        app:helperText="Required*"
        app:helperTextTextColor="#F80202"
        app:counterEnabled="true"
        app:counterMaxLength="10"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/user">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/user"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
    style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/mail"
        android:layout_margin="10dp"
        android:hint="Email"
        app:counterEnabled="true"
```

```
                app:counterMaxLength="20"
                app:helperText="Required*"
                app:helperTextTextColor="#F80202"
                app:endIconMode="clear_text"
                app:startIconDrawable="@drawable/email">
                <com.google.android.material.textfield.TextInputEditText
                    android:layout_width="match_parent"
                    android:inputType="textPassword"
                    android:layout_height="wrap_content"
                    android:id="@+id/email"/>
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:id="@+id/mail1"
                android:layout_margin="10dp"
                android:hint="Password"
                app:helperText="Required*"
                app:counterEnabled="true"
                app:counterMaxLength="10"
                app:helperTextTextColor="#F80202"
                app:endIconMode="clear_text"
                app:startIconDrawable="@drawable/pass">
                <com.google.android.material.textfield.TextInputEditText
                    android:layout_width="match_parent"
                    android:inputType="textPassword"
                    android:layout_height="wrap_content"
                    android:id="@+id/pass"/>
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:id="@+id/mail2"
                android:layout_margin="10dp"
                android:hint=" Confirm Password"
                app:helperText="Required*"
                app:helperTextTextColor="#F80202"
                app:endIconMode="clear_text"
                app:counterEnabled="true"
                app:counterMaxLength="10"
                app:startIconDrawable="@drawable/pass">
                <com.google.android.material.textfield.TextInputEditText
                    android:layout_width="match_parent"
                    android:inputType="textPassword"
                    android:layout_height="wrap_content"
                    android:id="@+id/pass2"/>
        </com.google.android.material.textfield.TextInputLayout>
        <RelativeLayout
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:gravity="center">
                <Button
                    android:id="@+id/back"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
```

```xml
                android:text="Retrun"
                app:cornerRadius="20dp"
                app:icon="@drawable/back"
                android:padding="10dp"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
        <Button
                android:id="@+id/reg"
                android:layout_toRightOf="@+id/back"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Register "
                app:cornerRadius="20dp"
                app:icon="@drawable/register"
                android:padding="10dp"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
    </RelativeLayout>
</LinearLayout>
```

Main_axtivity.java

```java
package com.example.sharedpreference;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.CompoundButton;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
public class MainActivity extends AppCompatActivity {
    Button savebtn,clr,register;
    EditText user,pass;
    CheckBox save;
    TextView help;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        user = findViewById(R.id.user);
        pass = findViewById(R.id.pass);
        savebtn = findViewById(R.id.login);
        save = findViewById(R.id.remeber);
        clr = findViewById(R.id.clear);
        register = findViewById(R.id.reg);
        clr.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                user.setText("");
                pass.setText("");
                save.setChecked(false);
            }
        });
        register.setOnClickListener(new View.OnClickListener() {
            @Override
```

```java
        public void onClick(View v) {
            Intent new_add = new Intent(getApplicationContext(), MainActivity2.class);
            startActivityForResult(new_add,1);
        }
    });
    SharedPreferences shp = getSharedPreferences("a",MODE_PRIVATE);
    String user2 = shp.getString("name1","");
    String pass2 = shp.getString("pass1","");
    String val_rem = shp.getString("rem","");
    String user_reg_dt = shp.getString("user_reg","");
    String pass_reg_dt = shp.getString("pass_reg","");
    user.setText(user2);
    pass.setText(pass2);
    if (val_rem.equals("Y")){
        save.setChecked(true);
    }
    else{
        save.setChecked(false);
    }
        savebtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String name = user.getText().toString().trim();
                String ps = pass.getText().toString().trim();
                if (save.isChecked()) {
                    Toast.makeText(MainActivity.this, "CHECKED", Toast.LENGTH_SHORT).show();
                    String ch ="Y";
                    storedata(name, ps,ch);
                }
                else{
                    String ch="N";
                    storeempty(name,ps,ch);
                }
            }
            public void storeempty(String name, String ps, String ch) {
                SharedPreferences shp = getSharedPreferences("a", MODE_PRIVATE);
                SharedPreferences.Editor editor = shp.edit();
                editor.putString("name1","");
                editor.putString("pass1", "");
                editor.putString("rem",ch);
                editor.apply();
            }
            public  void storedata (String name, String ps, String ch) {
                    SharedPreferences shp = getSharedPreferences("a", MODE_PRIVATE);
                    SharedPreferences.Editor editor = shp.edit();
                    editor.putString("name1", name);
                    editor.putString("pass1", ps);
                    editor.putString("rem",ch);
                    editor.apply();
                    Toast.makeText(MainActivity.this, "COMPLETED",
                 Toast.LENGTH_SHORT).show();
            }
            });
    }
}
```

Main_Activity2.java

```java
package com.example.sharedpreference;
import androidx.appcompat.app.AppCompatActivity;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputEditText;
public class MainActivity2 extends AppCompatActivity {
    Button back,register;
    TextInputEditText name,pass,confirm,mail;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        name = findViewById(R.id.user);
        mail = findViewById(R.id.email);
        pass = findViewById(R.id.pass);
        confirm = findViewById(R.id.pass2);
        back = findViewById(R.id.back);
        register = findViewById(R.id.reg);
        register.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (!pass.getText().toString().equals(confirm.getText().toString())) {
                    Toast.makeText(MainActivity2.this, "Password Do Not Match",
                    Toast.LENGTH_SHORT).show();
                } else {
                    SharedPreferences shp = getSharedPreferences("a", MODE_PRIVATE);
                    SharedPreferences.Editor edit = shp.edit();
                    edit.putString("user_reg", name.getText().toString().trim());
                    edit.putString("pass_reg", pass.getText().toString().trim());
                    edit.apply();
                    Toast.makeText(MainActivity2.this, "Completed",
                    Toast.LENGTH_SHORT).show();
                }
            }
        });
        back.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                finish();
            }
        });
    }
}
```

RESULT

Developed android application and demostrated the use of shared
perfernce in android

EXPERIMENT 18   DATE:04/03/24
SQLITE DATABASE IN ANDROID

AIM: Develop an Android application to create of database and related objects and insert data

program
AndroidManifest.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.TestDatabase">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```
User_layout.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LogIn"
        android:textStyle="bold"
        android:textSize="20sp"/>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/user1"
        android:hint="User Name"
        app:helperTextTextColor="#F80202"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/user">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/user"/>
```

```
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
            style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/mail1"
            android:hint="Email"
            app:helperTextTextColor="#F80202"
            app:endIconMode="clear_text"
            app:startIconDrawable="@drawable/email">
            <com.google.android.material.textfield.TextInputEditText
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:id="@+id/mail"/>
        </com.google.android.material.textfield.TextInputLayout>
        <Button
            android:id="@+id/upload"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Save"
            app:cornerRadius="20dp"
            app:icon="@drawable/save"
            style="?attr/materialButtonOutlinedStyle"/>
</LinearLayout>
```

MainActivity.java

```java
package com.example.testdatabase;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputEditText;
public class MainActivity extends AppCompatActivity {
    TextInputEditText name,email;
    Button log,up;
    database dbms;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.user_layout);
        name = findViewById(R.id.user);
        dbms = new database(this);
        email = findViewById(R.id.mail);
        up = findViewById(R.id.upload);
        up.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (name.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity.this, "Alert! enter name",
                    Toast.LENGTH_SHORT).show();
                } else if (email.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity.this, "Alert! enter Email",
                    Toast.LENGTH_SHORT).show();
                } else {
```

```java
            String NAME = name.getText().toString().trim();
            String MAIL = email.getText().toString().trim();
            dbms.add_user_data(NAME, MAIL);
        }
    }
});
}
```

database.java

```java
package com.example.testdatabase;
import android.content.ContentValues;
import android.view.View;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.widget.Toast;
import androidx.annotation.Nullable;
public class database extends SQLiteOpenHelper {
    private Context context;
    private static final String NAME ="my_database.db";
    private static final String USER_ID="id_users";
    private static final String NAME_COL = "name_column";
    private static final String EMAIL_COL = "email_column";
    private static final String USER_TB = "user_table";
    public database(@Nullable Context context) {
        super(context, NAME,null,1);
        this.context = context;
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
      String query = "CREATE TABLE " + USER_TB + "(" + USER_ID + " INTEGER PRIMARY KEY
        AUTOINCREMENT,"
            + NAME_COL + " TEXT," + EMAIL_COL + " TEXT);";
            db.execSQL(query);
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int i, int i1) {
    }
    public void add_user_data(String name,String mail) {
        SQLiteDatabase dbms1 = this.getWritableDatabase();
        ContentValues val = new ContentValues();
        val.put(NAME_COL, name);
        val.put(EMAIL_COL, mail);
        long result = dbms1.insert(USER_TB ,null,val);
        if(result==-1){
            Toast.makeText(context, "Failed To Insert", Toast.LENGTH_SHORT).show();
        }
        else{
            Toast.makeText(context, "Inserted Successfully", Toast.LENGTH_SHORT).show();
        }
    }
}
```

RESULT

The application to create of database and related objects and insert data
has been Developed successfully and output is verified.

DATABASE AND RECYCLER VIEW

AIM: Develop an Android application for reading data from the database and show

      it using recycler view

Program

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:tools="http://schemas.android.com/tools">
  <application
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.Database">
    <activity
      android:name=".MainActivity2"
      android:exported="true"
      android:parentActivityName=".MainActivity"></activity>
    <activity
      android:name=".MainActivity"
      android:exported="true">
      <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
      </intent-filter>
    </activity>
  </application>
</manifest>
```

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
  xmlns:app="http://schemas.android.com/apk/res-auto"
  xmlns:tools="http://schemas.android.com/tools"
  android:layout_width="match_parent"
  android:layout_height="match_parent"
  tools:context=".MainActivity">
  <TextView
    android:id="@+id/head"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="USER DATA"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    tools:ignore="MissingConstraints" />
  <com.google.android.material.floatingactionbutton.FloatingActionButton
    android:id="@+id/add_new"
    android:layout_width="60dp"
```

```xml
        android:layout_height="70dp"
        android:src="@drawable/add"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.948"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/head"
        tools:ignore="MissingConstraints" />
    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/recycle_list"
        android:layout_width="392dp"
        android:layout_height="635dp"
        android:layout_margin="10dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/head"
        tools:layout_editor_absoluteX="10dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

User_layout

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LogIn"
        android:textStyle="bold"
        android:textSize="20sp"/>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/user1"
        android:layout_margin="10dp"
        android:hint="User Name"
        app:helperText="Required*"
        app:helperTextTextColor="#F80202"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/user">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/user"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/mail1"
        android:layout_margin="10dp"
        android:hint="Email"
```

```xml
        app:helperTextTextColor="#F80202"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/email">
        <com.google.android.material.textfield.TextInputEditText
          android:layout_width="match_parent"
          android:layout_height="wrap_content"
          android:id="@+id/mail"/>
    </com.google.android.material.textfield.TextInputLayout>
    <Button
        android:id="@+id/upload"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Save"
        app:cornerRadius="20dp"
        app:icon="@drawable/save"
        android:padding="10dp"
        android:layout_marginRight="5dp"
        style="?attr/materialButtonOutlinedStyle"/>
</LinearLayout>
```

Activity_main2.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity2">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LogIn"
        android:textStyle="bold"
        android:textSize="20sp"/>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/user1"
        android:layout_margin="10dp"
        android:hint="User Name"
        app:helperText="Required*"
        app:helperTextTextColor="#F80202"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/user">
        <com.google.android.material.textfield.TextInputEditText
          android:layout_width="match_parent"
          android:layout_height="wrap_content"
          android:id="@+id/user"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/mail1"
```

```xml
        android:layout_margin="10dp"
        android:hint="Email"
        app:helperText="Required*"
        app:helperTextTextColor="#F80202"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/email">
        <com.google.android.material.textfield.TextInputEditText
          android:layout_width="match_parent"
          android:layout_height="wrap_content"
          android:id="@+id/mail"/>
    </com.google.android.material.textfield.TextInputLayout>
    <RelativeLayout
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:gravity="center">
    <Button
      android:id="@+id/upload"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Save"
      app:cornerRadius="20dp"
      app:icon="@drawable/save"
      android:padding="10dp"
      android:layout_marginRight="5dp"
      style="?attr/materialButtonOutlinedStyle"/>
    <Button
      android:id="@+id/clear"
      android:layout_toRightOf="@+id/upload"
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Clear"
      app:cornerRadius="20dp"
      app:icon="@drawable/clear"
      android:padding="10dp"
      android:layout_marginRight="5dp"
      style="?attr/materialButtonOutlinedStyle"/>
      <Button
        android:id="@+id/go_back"
        android:layout_toRightOf="@+id/clear"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Cancel"
        app:cornerRadius="20dp"
        app:icon="@drawable/clear"
        android:padding="10dp"
        android:layout_marginRight="5dp"
        style="?attr/materialButtonOutlinedStyle"/>
    </RelativeLayout>
</LinearLayout>
```

MainActivity.java

```java
package com.example.database;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
import android.content.Intent;
import android.database.Cursor;
```

```java
import android.os.Bundle;
import android.view.View;
import android.widget.Toast;
import com.google.android.material.floatingactionbutton.FloatingActionButton;
import java.util.ArrayList;
public class MainActivity extends AppCompatActivity {
 FloatingActionButton add;
 RecyclerView list;
 database dbms;
 ArrayList<String> arr_id,arr_name,arr_mail;
 list_adapter adapter;
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main);
      add = findViewById(R.id.add_new);
      list = findViewById(R.id.recycle_list);
      add.setOnClickListener(new View.OnClickListener() {
         @Override
         public void onClick(View v) {
            Intent new_add = new Intent(getApplicationContext(), MainActivity2.class);
            startActivityForResult(new_add,1);
         }
      });
      dbms=new database(this);
      arr_id = new ArrayList<>();
      arr_name = new ArrayList<>();
      arr_mail = new ArrayList<>();
      adapter = new list_adapter(this,arr_id,arr_name,arr_mail);
      list.setAdapter(adapter);
      list.setLayoutManager(new LinearLayoutManager(this));
      readdata();
   }
   public  void readdata() {
      Cursor load =  dbms.collect_data();
      if (load.getCount()==0){
         Toast.makeText(this, "No Data Found", Toast.LENGTH_SHORT).show();
      }
      else {
         while(load.moveToNext()){
            arr_id.add(load.getString(0));
            arr_name.add(load.getString(1));
            arr_mail.add(load.getString(2));
         }
      }
   }
   @Override
   protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
      super.onActivityResult(requestCode, resultCode, data);
      if (requestCode == 1) {
         recreate();
      }
   }
}
```

MainActivity2.java

```java
package com.example.database;
import androidx.annotation.Nullable;
```

```java
import androidx.appcompat.app.AppCompatActivity;
import android.app.Activity;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputEditText;
public class MainActivity2 extends AppCompatActivity {
    TextInputEditText name,email;
    Button clr,up,back;
    database dbms;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
        name = findViewById(R.id.user);
        dbms = new database(this);
        email = findViewById(R.id.mail);
        up = findViewById(R.id.upload);
        clr = findViewById(R.id.clear);
        back = findViewById(R.id.go_back);
        up.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (name.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "Alert! enter name",
                    Toast.LENGTH_SHORT).show();
                } else if (email.getText().toString().isEmpty()) {
                    Toast.makeText(MainActivity2.this, "Alert! enter Email",
                    Toast.LENGTH_SHORT).show();
                } else {
                    String NAME = name.getText().toString().trim();
                    String MAIL = email.getText().toString().trim();
                    dbms.add_user_data(NAME, MAIL);
                }
            }
        });
        clr.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                name.setText("");
                email.setText("");
            }
        });
    back.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent goback = new Intent();
            setResult(Activity.RESULT_CANCELED, goback);
            finish();
        }
    });
    }
}
```

list_adapter

```
package com.example.database;
import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.TextView;
import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;
import org.w3c.dom.Text;
import java.util.ArrayList;
public class list_adapter extends RecyclerView.Adapter<list_adapter.listViewholder> {
    Context context;
    ArrayList name,email,id;
    public list_adapter(Context context, ArrayList name, ArrayList email, ArrayList id) {
        this.context = context;
        this.name = name;
        this.email = email;
        this.id = id;
    }
    @NonNull
    @Override
    public listViewholder onCreateViewHolder(@NonNull ViewGroup parent, int viewType) {
        LayoutInflater layout = LayoutInflater.from(context);
        View v = layout.inflate(R.layout.data_list,parent,false);
        return new listViewholder(v);
    }
    @Override
    public void onBindViewHolder(@NonNull listViewholder holder, int position) {
        holder.val_id.setText(String.valueOf(id.get(position)));
        holder.val_name.setText(String.valueOf(name.get(position)));
        holder.val_mail.setText(String.valueOf(email.get(position)));
    }
    @Override
    public int getItemCount() {
        return name.size();
    }
    public  class listViewholder extends RecyclerView.ViewHolder {
        TextView val_id,val_name,val_mail;
        public listViewholder(@NonNull View itemView) {
            super(itemView);
            val_id = itemView.findViewById(R.id.for_id);
            val_name  =itemView.findViewById(R.id.for_name);
            val_mail = itemView.findViewById(R.id.for_mail);
        }
    }
}
```

database.java

```
package com.example.database;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.widget.Toast;
import androidx.annotation.Nullable;
```

```java
public class database extends SQLiteOpenHelper {
    private Context context;
    private static final String NAME ="my_database.db";
    private static final String USER_ID="id_users";
    private static final String NAME_COL = "name_column";
    private static final String EMAIL_COL = "email_column";
    private static final String USER_TB = "user_table";
    public database(@Nullable Context context) {
        super(context, NAME,null,1);
        this.context = context;
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
      String query = "CREATE TABLE " + USER_TB + "(" + USER_ID + " INTEGER PRIMARY KEY
          AUTOINCREMENT,"
          + NAME_COL + " TEXT," + EMAIL_COL + " TEXT);";
          db.execSQL(query);
    }
    @Override
    public void onUpgrade(SQLiteDatabase db, int i, int i1) {
        db.execSQL("DROP TABLE IF EXISTS USER_TB");
        onCreate(db);
    }
    public void add_user_data(String name,String mail) {
        SQLiteDatabase dbms1 = this.getWritableDatabase();
        ContentValues val = new ContentValues();
        val.put(NAME_COL, name);
        val.put(EMAIL_COL, mail);
        long result = dbms1.insert(USER_TB ,null,val);
        if(result==-1){
            Toast.makeText(context, "Failed To Insert", Toast.LENGTH_SHORT).show();
        }
        else{
            Toast.makeText(context, "Inserted Successfully", Toast.LENGTH_SHORT).show();
        }
    }
     Cursor collect_data() {
         SQLiteDatabase dbms = this.getReadableDatabase();
         Cursor load = dbms.rawQuery(" SELECT * FROM " + USER_TB , null);
         return load;
      }
   }
```

RESULT

The application for reading data from the database and show it using
recycler view has been Developed successfully and output is verified.

UPDATE AND DELETE DATA FROM DATABASE

AIM: Develop an Android application for updating and deleting data from database

Program

AndroidManifest.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">
    <application
        android:icon="@mipmap/ic_launcher"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.DATA"
        tools:targetApi="31">
        <activity
            android:name=".editData"
            android:exported="false" />
        <activity
            android:name=".MainActivity2"
            android:exported="false" />
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />
                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>
```

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"
    android:background="@drawable/car5">
    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Car Details"
        android:textSize="20sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.441"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.022" />
    <androidx.recyclerview.widget.RecyclerView
```

```
            android:id="@+id/car_list"
            android:layout_width="match_parent"
            android:layout_margin="10dp"
            android:layout_height="wrap_content"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/textView"
            app:layout_constraintVertical_bias="0.058"
            tools:layout_editor_absoluteX="-31dp"
            android:layout_marginBottom="20dp"/>
    <com.google.android.material.floatingactionbutton.FloatingActionButton
            android:id="@+id/add_btn"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:clickable="true"
            app:layout_constraintBottom_toBottomOf="parent"
            app:layout_constraintEnd_toEndOf="parent"
            app:layout_constraintHorizontal_bias="0.89"
            app:layout_constraintStart_toStartOf="parent"
            app:layout_constraintTop_toBottomOf="@+id/textView"
            app:layout_constraintVertical_bias="0.893"
            app:srcCompat="@drawable/add" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

activity_main2.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity2"
    android:background="@drawable/car6">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="MY CAR"
        android:textStyle="bold"
        android:textSize="20sp"/>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="BRAND NAME"
        app:endIconMode="clear_text"
        app:startIconDrawable="@drawable/brand">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/brand"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
```

```xml
      android:hint="CHASIS NUMBER"
      app:startIconDrawable="@drawable/chasy"
      app:endIconMode="clear_text">
      <com.google.android.material.textfield.TextInputEditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/chasis"/>
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
      style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:hint="MODEL NUMBER"
      app:prefixText="MOD"
      app:startIconDrawable="@drawable/model"
      app:endIconMode="clear_text">
      <com.google.android.material.textfield.TextInputEditText
        android:layout_width="match_parent"
        android:inputType="number"
        android:layout_height="wrap_content"
        android:id="@+id/model"/>
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
        style="@style/Widget.MaterialComponents.TextInputLayout.FilledBox.ExposedDropd
ownMenu"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_marginRight="10dp"
      android:layout_marginLeft="10dp"
      app:startIconDrawable="@drawable/color"
      android:hint="Color">
      <AutoCompleteTextView
        android:id="@+id/color"
        android:layout_width="380dp"
        android:layout_height="wrap_content"
        android:inputType="none"/>
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
      style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:hint="TRANSMISSION TYPE"
      app:startIconDrawable="@drawable/trans"
      app:endIconMode="clear_text">
      <com.google.android.material.textfield.TextInputEditText
        android:id="@+id/trans"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
      style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_margin="10dp"
      android:hint="Engine"
```

```xml
            app:suffixText="cc"
            app:startIconDrawable="@drawable/engine"
            app:endIconMode="clear_text">
            <com.google.android.material.textfield.TextInputEditText
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:id="@+id/engine" />
        </com.google.android.material.textfield.TextInputLayout>

        <RelativeLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:gravity="center">
            <Button
                android:id="@+id/save"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Save"
                app:cornerRadius="20dp"
                android:padding="10dp"
                app:icon="@drawable/save"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
            <Button
                android:id="@+id/clear"
                android:layout_toRightOf="@+id/save"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Clear"
                app:icon="@drawable/clear"
                app:cornerRadius="20dp"
                android:padding="10dp"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
            <Button
                android:id="@+id/go_back"
                app:icon="@drawable/back"
                android:layout_toRightOf="@+id/clear"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Go Back"
                app:cornerRadius="20dp"
                android:padding="10dp"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
        </RelativeLayout>
</LinearLayout>
```

car_data.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:orientation="vertical">
    <androidx.cardview.widget.CardView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```xml
        android:layout_margin="10dp"
        app:cardCornerRadius="10dp">
        <RelativeLayout
            android:layout_width="match_parent"
            android:layout_height="135dp"
            android:padding="10dp"
            android:id="@+id/layout"
            android:background="@drawable/bck">
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="BRAND NAME:"
                android:layout_marginRight="10dp"
                android:id="@+id/msg1"/>
        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="hello"
            android:layout_toRightOf="@+id/msg1"
            android:id="@+id/brand"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_below="@id/msg1"
                android:layout_height="wrap_content"
                android:text="CHASIS NO:"
                android:id="@+id/msg2"/>
        <TextView
            android:layout_toRightOf="@+id/msg1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="hello"
            android:id="@+id/cha"
            android:layout_below="@+id/brand"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_below="@id/msg2"
                android:layout_height="wrap_content"
                android:text="MODEL NO:"
                android:id="@+id/msg3"/>
            <TextView
                android:layout_toRightOf="@+id/msg1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="hello"
                android:id="@+id/mod"
                android:layout_below="@+id/cha"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_below="@id/msg3"
                android:layout_height="wrap_content"
                android:text="COLOR:"
                android:id="@+id/msg4"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_toRightOf="@+id/msg1"
                android:text="hello"
```

```
                android:id="@+id/col"
                android:layout_below="@+id/mod"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_below="@id/msg4"
                android:layout_height="wrap_content"
                android:text="TYPE:"
                android:id="@+id/msg5"/>
            <TextView
                android:layout_toRightOf="@+id/msg1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="hello"
                android:id="@+id/typ"
                android:layout_below="@+id/col"/>
            <TextView
                android:layout_width="wrap_content"
                android:layout_below="@id/msg5"
                android:layout_height="wrap_content"
                android:text="ENGINE:"
                android:id="@+id/msg6"/>
            <TextView
                android:layout_toRightOf="@+id/msg1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="hello"
                android:id="@+id/eng"
                android:layout_below="@+id/typ"/>
        </RelativeLayout>
    </androidx.cardview.widget.CardView>
</LinearLayout>
```

activity_edit_data.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:orientation="vertical"
    android:gravity="center"
    tools:context=".MainActivity2"
    android:background="@drawable/car6">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="EDIT CAR DATA"
        android:textStyle="bold"
        android:textSize="20sp"/>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="BRAND NAME"
        app:startIconDrawable="@drawable/brand"
        app:endIconMode="clear_text">
        <com.google.android.material.textfield.TextInputEditText
```

```xml
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/edt_brand"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="CHASIS NUMBER"
        app:startIconDrawable="@drawable/chasy"
        app:endIconMode="clear_text">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/edt_chasis"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="MODEL NUMBER"
        app:prefixText="MOD"
        app:startIconDrawable="@drawable/model"
        app:endIconMode="clear_text">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
            android:inputType="number"
            android:layout_height="wrap_content"
            android:id="@+id/edt_model"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
            style="@style/Widget.MaterialComponents.TextInputLayout.FilledBox.ExposedDr
            opdownMenu"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="10dp"
        android:layout_marginRight="10dp"
        app:startIconDrawable="@drawable/color"
        android:hint="Color">
        <AutoCompleteTextView
            android:id="@+id/edt_color"
            android:layout_width="380dp"
            android:layout_height="wrap_content"
            android:inputType="none"/>
    </com.google.android.material.textfield.TextInputLayout>
    <com.google.android.material.textfield.TextInputLayout
        style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_margin="10dp"
        android:hint="TRANSMISSION TYPE"
        app:startIconDrawable="@drawable/trans"
        app:endIconMode="clear_text">
        <com.google.android.material.textfield.TextInputEditText
            android:layout_width="match_parent"
```

```xml
                android:layout_height="wrap_content"
                android:id="@+id/edt_trans" />
        </com.google.android.material.textfield.TextInputLayout>
        <com.google.android.material.textfield.TextInputLayout
            style="@style/ThemeOverlay.Material3.AutoCompleteTextView.OutlinedBox"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="10dp"
            android:hint="Engine"
            app:suffixText="cc"
            app:startIconDrawable="@drawable/engine"
            app:endIconMode="clear_text">
            <com.google.android.material.textfield.TextInputEditText
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:id="@+id/edt_engine" />
        </com.google.android.material.textfield.TextInputLayout>
        <RelativeLayout
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:gravity="center">
            <Button
                android:id="@+id/edit"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Edit"
                app:cornerRadius="20dp"
                android:padding="10dp"
                app:icon="@drawable/save"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
            <Button
                android:id="@+id/delete"
                android:layout_toRightOf="@+id/edit"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Delete"
                app:cornerRadius="20dp"
                app:icon="@drawable/clear"
                android:padding="10dp"
                android:layout_marginRight="5dp"
                style="?attr/materialButtonOutlinedStyle"/>
        </RelativeLayout>
</LinearLayout>
```

MainActivity.java

```java
package com.example.data;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.recyclerview.widget.LinearLayoutManager;
import androidx.recyclerview.widget.RecyclerView;
import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.Toast;
import com.google.android.material.floatingactionbutton.FloatingActionButton;
import java.util.ArrayList;
```

```java
public class MainActivity extends AppCompatActivity {
RecyclerView car_dt;
FloatingActionButton add_cd_data;
ArrayList<String> val_id,val_brand,val_col,val_mod,val_chs,val_tran,val_eng;
myDatabase dbms;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        car_dt = findViewById(R.id.car_list);
        add_cd_data = findViewById(R.id.add_btn);
        dbms=new myDatabase(this);
        add_cd_data.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent add = new Intent(MainActivity.this, MainActivity2.class);
                startActivityForResult(add,101);
            }
        });
        val_id = new ArrayList<>();
        val_brand = new ArrayList<>();
        val_col = new ArrayList<>();
        val_mod = new ArrayList<>();
        val_chs = new ArrayList<>();
        val_tran = new ArrayList<>();
        val_eng = new ArrayList<>();
        collectdata();
        Adapter new_adp = new
Adapter(MainActivity.this,val_id,val_brand,val_chs,val_mod,val_col,val_tran,val_eng);
        car_dt.setLayoutManager(new LinearLayoutManager(getApplicationContext()));
        car_dt.setAdapter(new_adp);
    }
    public void collectdata() {
        Cursor data = dbms.collect_data();
        if (data.getCount() == 0){
            Toast.makeText(this, "EMPTY DATA", Toast.LENGTH_SHORT).show();
        }
        else {
            while(data.moveToNext()){
                val_id.add(data.getString(0));
                val_brand.add(data.getString(1));
                val_chs.add(data.getString(2));
                val_mod.add(data.getString(3));
                val_col.add(data.getString(4));
                val_tran.add(data.getString(5));
                val_eng.add(data.getString(6));
            }
        }
    }
    @Override
    protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
        super.onActivityResult(requestCode, resultCode, data);
        if (requestCode==101){
            recreate();
        } else if (requestCode==102) {
            recreate();
        } else if (requestCode==103) {
```

```
            recreate();
        }
    }
}
```

MainActivity2.java

```java
package com.example.data;
import androidx.appcompat.app.AppCompatActivity;
import android.app.Activity;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
import android.widget.Button;
import android.widget.Toast;
import com.google.android.material.textfield.TextInputEditText;
public class MainActivity2 extends AppCompatActivity {
 TextInputEditText brand_name,chasis_number,model_number,trans_type,engine_cc;
 AutoCompleteTextView base_color;
 Button upload,clr,back;
 Context context;
 myDatabase dbms;
 String col;
 String[]color = {"RED","BLACK","GREEN","BLUE","WHITE"};
   @Override
   protected void onCreate(Bundle savedInstanceState) {
      super.onCreate(savedInstanceState);
      setContentView(R.layout.activity_main2);
      brand_name = findViewById(R.id.brand);
      chasis_number = findViewById(R.id.chasis);
      model_number = findViewById(R.id.model);
      base_color = findViewById(R.id.color);
      trans_type = findViewById(R.id.trans);
      engine_cc = findViewById(R.id.engine);
      upload = findViewById(R.id.save);
      clr = findViewById(R.id.clear);
      dbms= new myDatabase(this);
      back = findViewById(R.id.go_back);
      ArrayAdapter<String> adapter = new ArrayAdapter<String>
          (this,android.R.layout.select_dialog_item,color);
      base_color.setAdapter(adapter);
      base_color.setOnItemClickListener(new AdapterView.OnItemClickListener() {
        @Override
        public void onItemClick(AdapterView<?> parent, View view, int position, long id) {
          col = (String) parent.getItemAtPosition(position);
        }
      });
      upload.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
          if (brand_name.getText().toString().isEmpty() ||
            chasis_number.getText().toString().isEmpty() ||
            trans_type.getText().toString().isEmpty() ||
            engine_cc.getText().toString().isEmpty()){
```

```java
                    Toast.makeText(getApplicationContext(), "Enter details",
                    Toast.LENGTH_SHORT).show();
                }
                else {
                    String brd, chs, mod, tran, eng;
                    brd = brand_name.getText().toString().trim();
                    chs = chasis_number.getText().toString().trim();
                    mod = model_number.getText().toString().trim();
                    tran = trans_type.getText().toString().trim();
                    eng = engine_cc.getText().toString().trim();
                    dbms.insert_data(brd, chs, mod, tran, eng, col);
                }
            }
        });
        clr.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                brand_name.setText("");
                chasis_number.setText("");
                model_number.setText("");
                trans_type.setText("");
                engine_cc.setText("");
                base_color.setText("");
            }
        });
        back.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent back = new Intent();
                setResult(101);
                finish();
            }
        });
    }
}
```

editData.java

```java
package com.example.data;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
import android.content.Context;
import android.content.DialogInterface;
import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.AutoCompleteTextView;
import android.widget.Button;
import com.google.android.material.textfield.TextInputEditText;
public class editData extends AppCompatActivity {
  TextInputEditText
brand_name,chasis_number,model_number,trans_type,engine_cc;
    AutoCompleteTextView base_color;
    Button upload,delete;
```

```java
myDatabase dbms;
String col,id_dt;
String[]color = {"RED","BLACK","GREEN","BLUE","WHITE"};
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_edit_data);
    brand_name = findViewById(R.id.edt_brand);
    chasis_number = findViewById(R.id.edt_chasis);
    model_number = findViewById(R.id.edt_model);
    base_color = findViewById(R.id.edt_color);
    trans_type = findViewById(R.id.edt_trans);
    engine_cc = findViewById(R.id.edt_engine);
    upload = findViewById(R.id.edit);
    delete = findViewById(R.id.delete);
    Intent edit = getIntent();
    Bundle data = edit.getExtras();
    brand_name.setText(data.getString("brand"));
    chasis_number.setText(data.getString("chasis"));
    model_number.setText(data.getString("model"));
    base_color.setText(data.getString("color"));
    trans_type.setText(data.getString("trans"));
    engine_cc.setText(data.getString("engine"));
     dbms= new myDatabase(this);
        ArrayAdapter<String> adapter = new ArrayAdapter<String>
        (this,android.R.layout.select_dialog_item,color);
    base_color.setAdapter(adapter);
  id_dt = data.getString("id");
    base_color.setOnItemClickListener(new AdapterView.OnItemClickListener() {
      @Override
      public void onItemClick(AdapterView<?> parent, View view, int position, long
     id) {
        col = (String) parent.getItemAtPosition(position);
      }
    });
    upload.setOnClickListener(new View.OnClickListener() {
      @Override
      public void onClick(View v) {
        String brd,chs,mod,tran,eng;
        brd = brand_name.getText().toString().trim();
        chs = chasis_number.getText().toString().trim();
        mod = model_number.getText().toString().trim();
        tran = trans_type.getText().toString().trim();
        eng = engine_cc.getText().toString().trim();
        String id = data.getString("id");
        dbms.update_Data(brd,chs,mod,tran,eng,col,id);
        Intent back = new Intent();//for creating going back action
        setResult(102);//setting result code..code is used in the mainactivity;
        finish();//finishing th activity
      }
    });
    delete.setOnClickListener(new View.OnClickListener() {
```

```java
            @Override
            public void onClick(View v) {
                alertbutton();


            }
        });
    }
    public void alertbutton() {
        AlertDialog.Builder builder = new AlertDialog.Builder(editData.this);
        builder.setTitle("delete data");
        builder.setMessage("Do you want to delete "+ brand_name.getText().toString()
         +" now!");
        builder.setPositiveButton("yes", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                dbms.delete(id_dt);
                Intent back = new Intent();
                setResult(102);
                finish();
            }
        });
        builder.setNegativeButton("no", new DialogInterface.OnClickListener() {
            @Override
            public void onClick(DialogInterface dialog, int which) {
                Intent back = new Intent();
                setResult(102);
                finish();
            }
        });
        builder.show();
    }
}
```

myDatabase.java

```java
package com.example.data;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
import android.widget.Toast;
import androidx.annotation.Nullable;
public class myDatabase extends SQLiteOpenHelper {
    Context context;
    public myDatabase(@Nullable Context context) {
        super(context, "car_database.db", null, 1);
        this.context = context;
    }
    @Override
    public void onCreate(SQLiteDatabase db) {
        String sql = "create table car_dt(ID integer primary key autoincrement,BRAND
        text,CHASIS text," +
             "MODEL text,COLOR text,TYPE text,ENGINE text);";
        db.execSQL(sql);
    }
```

```java
    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int newVersion) {
      db.execSQL("DROP TABLE IF EXISTS car_dt");
      onCreate(db);
    }

    public void insert_data(String brd, String chs, String mod, String tran, String eng, String col)
    {
      SQLiteDatabase dbms1 = getWritableDatabase();
      ContentValues val = new ContentValues();
      val.put("BRAND",brd);
      val.put("CHASIS",chs);
      val.put("MODEL",mod);
      val.put("COLOR",col);
      val.put("TYPE",tran);
      val.put("ENGINE",eng);
      float result = dbms1.insert("car_dt",null,val);
      if (result==-1){
        Toast.makeText(context, "Insertion failed", Toast.LENGTH_SHORT).show();
      }else{
        Toast.makeText(context, "inserted Successfully", Toast.LENGTH_SHORT).show();
      }
    }
    Cursor collect_data(){
      Cursor data;
      SQLiteDatabase dbms1= getReadableDatabase();
      data = dbms1.rawQuery("select * from car_dt",null);
      return data;
    }
    public void update_Data(String brd, String chs, String mod, String tran, String eng, String
    col, String id) {
      SQLiteDatabase dbms1 = getWritableDatabase();
      ContentValues val = new ContentValues();
      val.put("BRAND",brd);
      val.put("CHASIS",chs);
      val.put("MODEL",mod);
      val.put("COLOR",col);
      val.put("TYPE",tran);
      val.put("ENGINE",eng);
      float result = dbms1.update("car_dt",val,"ID=?",new String[]{id});
      if (result==-1){
        Toast.makeText(context, "Failed to update", Toast.LENGTH_SHORT).show();
      }else {
        Toast.makeText(context, "Updated successfully", Toast.LENGTH_SHORT).show();
      }
    }
    public void delete(String idDt) {
      SQLiteDatabase dbms1 = getWritableDatabase();
      float result = dbms1.delete("car_dt","ID=?",new String[]{idDt});
      if (result==-1){
        Toast.makeText(context, "Failed to delete", Toast.LENGTH_SHORT).show();
      }else {
        Toast.makeText(context, "deleted successfully", Toast.LENGTH_SHORT).show();
      }
    }
}
```

Adapter.java

```java
package com.example.data;
import android.app.Activity;
import android.content.Context;
import android.content.Intent;
import android.os.Bundle;
import android.text.Layout;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.RelativeLayout;
import android.widget.TextView;
import androidx.annotation.NonNull;
import androidx.recyclerview.widget.RecyclerView;
import java.util.ArrayList;
public class Adapter extends RecyclerView.Adapter<Adapter.Myviewholder> {
    Context context;
    ArrayList<String>id,brand,chs,mod,col,tran,eng;
    LayoutInflater layout;
    public Adapter(MainActivity mainActivity, ArrayList<String> valId, ArrayList<String>
    valBrand, ArrayList<String> valChs, ArrayList<String> valMod, ArrayList<String> valCol,
    ArrayList<String> valTran, ArrayList<String> valEng) {
        this.context = mainActivity;
        this.id = valId;
        this.brand = valBrand;
        this.chs  = valChs;
        this.mod = valMod;
        this.col = valCol;
        this.tran = valTran;
        this.eng = valEng;
        layout = LayoutInflater.from(context);
    }
    @NonNull
    @Override
    public Adapter.Myviewholder onCreateViewHolder(@NonNull ViewGroup parent, int
viewType) {
        View v = layout.inflate(R.layout.car_data,parent,false);
        return new Myviewholder(v);
    }
    @Override
    public void onBindViewHolder(@NonNull Adapter.Myviewholder holder, int position) {
        holder.BR.setText(String.valueOf(brand.get(position)));
        holder.CH.setText(String.valueOf(chs.get(position)));
        holder.MO.setText(String.valueOf(mod.get(position)));
        holder.CO.setText(String.valueOf(col.get(position)));
        holder.TY.setText(String.valueOf(tran.get(position)));
        holder.EN.setText(String.valueOf(eng.get(position)));
        holder.item.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent edit = new Intent(context, editData.class);
                Bundle dataBundle = new Bundle();
                dataBundle.putString("id",id.get(position));
                dataBundle.putString("brand",brand.get(position));
                dataBundle.putString("chasis",chs.get(position));
                dataBundle.putString("model",mod.get(position));
                dataBundle.putString("color",col.get(position));
```

```java
                    dataBundle.putString("trans",tran.get(position));
                    dataBundle.putString("engine",eng.get(position));
                    edit.putExtras(dataBundle);
                    ((Activity)context).startActivityForResult(edit,102);
                }
            });
        }

        @Override
        public int getItemCount() {
            return brand.size();
        }

        public class Myviewholder extends RecyclerView.ViewHolder{
            TextView BR,CH,CO,EN,TY,MO;
            RelativeLayout item;
            public Myviewholder(@NonNull View itemView) {
                super(itemView);
                BR = itemView.findViewById(R.id.brand);
                CH = itemView.findViewById(R.id.cha);
                CO = itemView.findViewById(R.id.col);
                EN = itemView.findViewById(R.id.eng);
                TY = itemView.findViewById(R.id.typ);
                MO = itemView.findViewById(R.id.mod);
                item = itemView.findViewById(R.id.layout);

            }
        }
}
```

RESULT

The application for updating and deleting data from database has been
Developed successfully and output is verified.