

Date: 12/08/24

APP 4: Activity Life Cycle

Aim: Create an app to demonstrate Activity Life Cycle.

Program Code:

MainActivity.java

```
package com.example.start;
import androidx.appcompat.app.AppCompatActivity;
import android.nfc.Tag;
import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity
{
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("Appstate","Created");
    }

    @Override
    protected void onStart()
    {
        super.onStart();
        Log.d("Appstate","Starting");
    }

    @Override
    protected void onResume()
    {
        super.onResume();
        Log.d("Appstate","Resuming");
    }
```

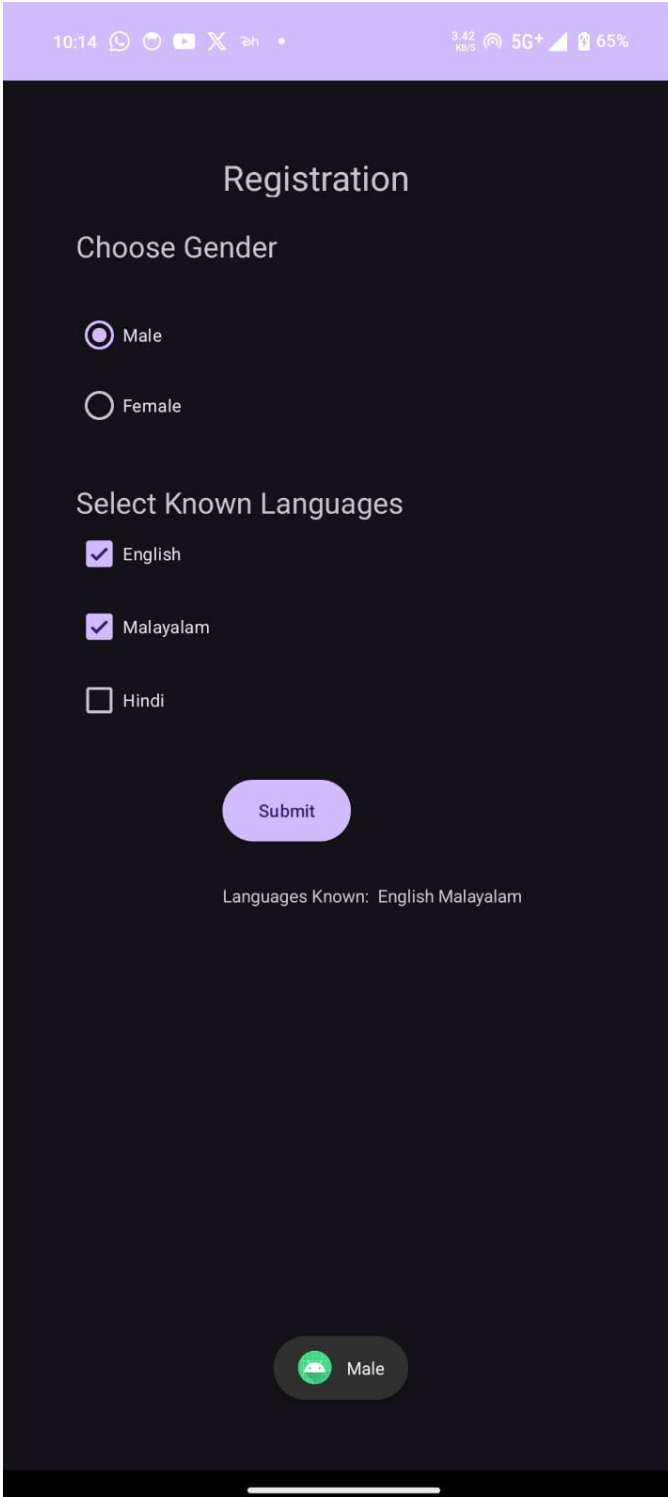
```
@Override
protected void onPause()
{
    super.onPause();
    Log.d("Appstate","Paused");
}

@Override
protected void onStop()
{
    super.onStop();
    Log.d("Appstate","Stopped");
}

@Override
protected void onRestart()
{
    super.onRestart();
    Log.d("Appstate","Restarted");
}

@Override
protected void onDestroy()
{
    super.onDestroy();
    Log.d("Appstate","Destroyed");
}
```

Result: The program has executed successfully and output is verified.

A screenshot of a mobile application registration screen. The screen has a dark blue background. At the top, there is a status bar with the time 10:14, signal strength, 5G+ network, and 65% battery. The app title "Registration" is centered at the top in white. Below it, the text "Choose Gender" is displayed. There are two radio button options: "Male" (selected) and "Female". Below this, the text "Select Known Languages" is displayed. There are three checkbox options: "English" (checked), "Malayalam" (checked), and "Hindi" (unchecked). A blue "Submit" button is centered below the language options. Below the button, the text "Languages Known: English Malayalam" is displayed. At the bottom of the screen, there is a floating action button (FAB) with a green circle containing a white male icon and the text "Male".

10:14 3.42 KB/s 5G+ 65%

Registration

Choose Gender

☒ Male

☐ Female

Select Known Languages

☒ English

☒ Malayalam

☐ Hindi

Submit

Languages Known: English Malayalam

Male

```
        android:layout_height="30dp"
        android:layout_marginTop="275dp"
        android:layout_marginLeft="50dp"
        android:id="@+id/lang"
        android:text="Select Known Languages"
        android:textSize="20dp"/>

<CheckBox
    android:id="@+id/e"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="English"
    android:layout_marginTop="300dp"
    android:layout_marginLeft="50dp"/>

<CheckBox
    android:id="@+id/m"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Malayalam"
    android:layout_marginTop="350dp"
    android:layout_marginLeft="50dp"/>

<CheckBox
    android:id="@+id/h"

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hindi"
        android:layout_marginTop="400dp"
        android:layout_marginLeft="50dp"/>

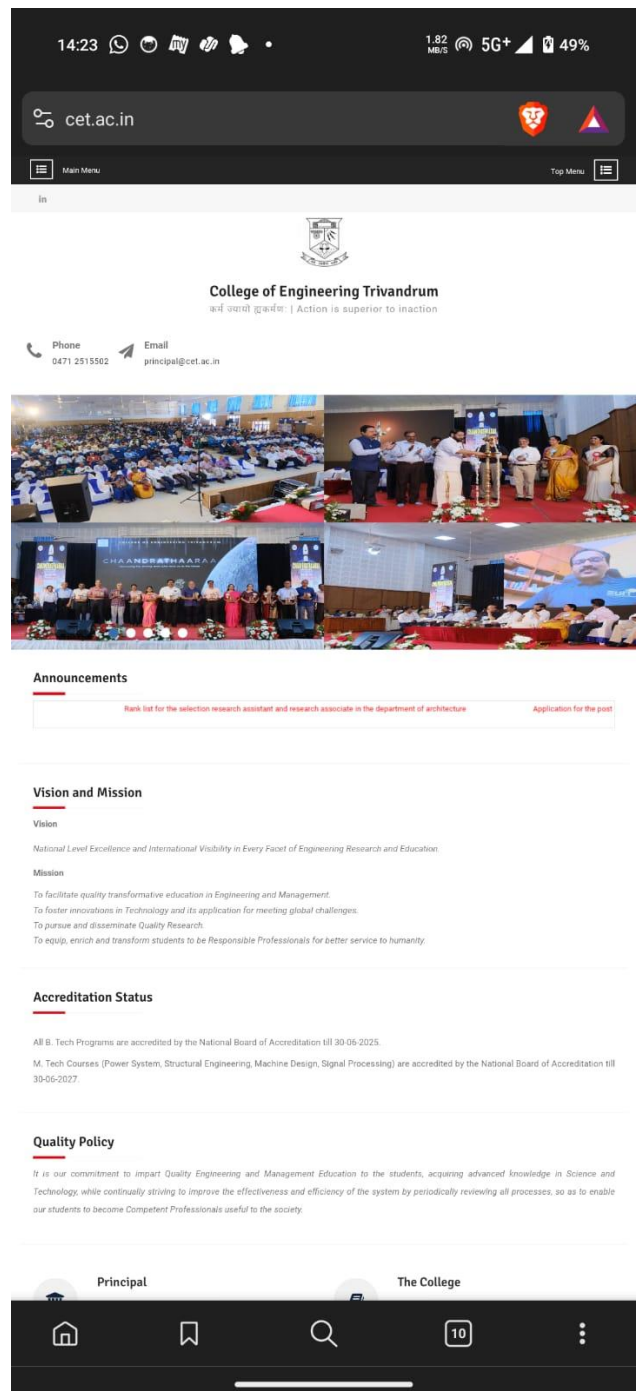
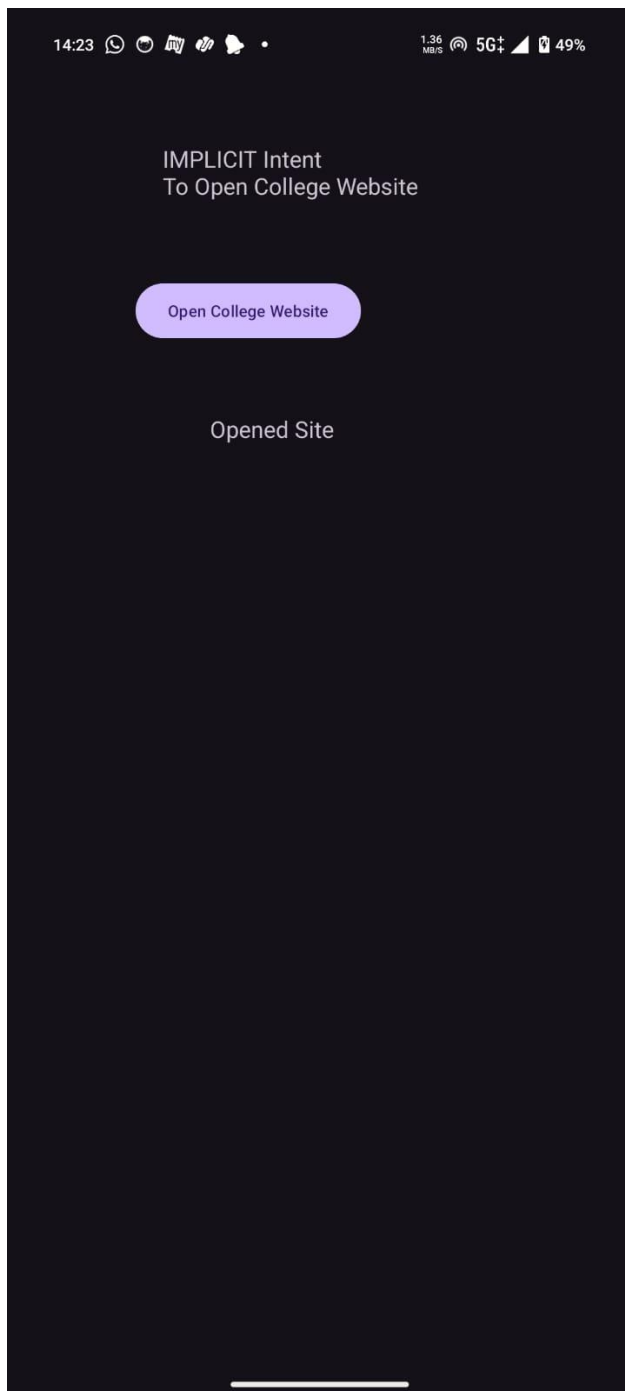
<Button
    android:layout_width="wrap_content"
    android:layout_height="50dp"
    android:layout_marginTop="475dp"
    android:layout_marginLeft="150dp"
    android:text="Submit"
    android:id="@+id/submit"/>

<TextView
    android:layout_width="wrap_content"
    android:layout_height="50dp"
    android:layout_marginTop="550dp"
    android:layout_marginLeft="150dp"
    android:text=""
    android:id="@+id/tv"/>

</RelativeLayout>

</LinearLayout>
```

Result: The program has executed successfully and output is verified.



APP 7: List View

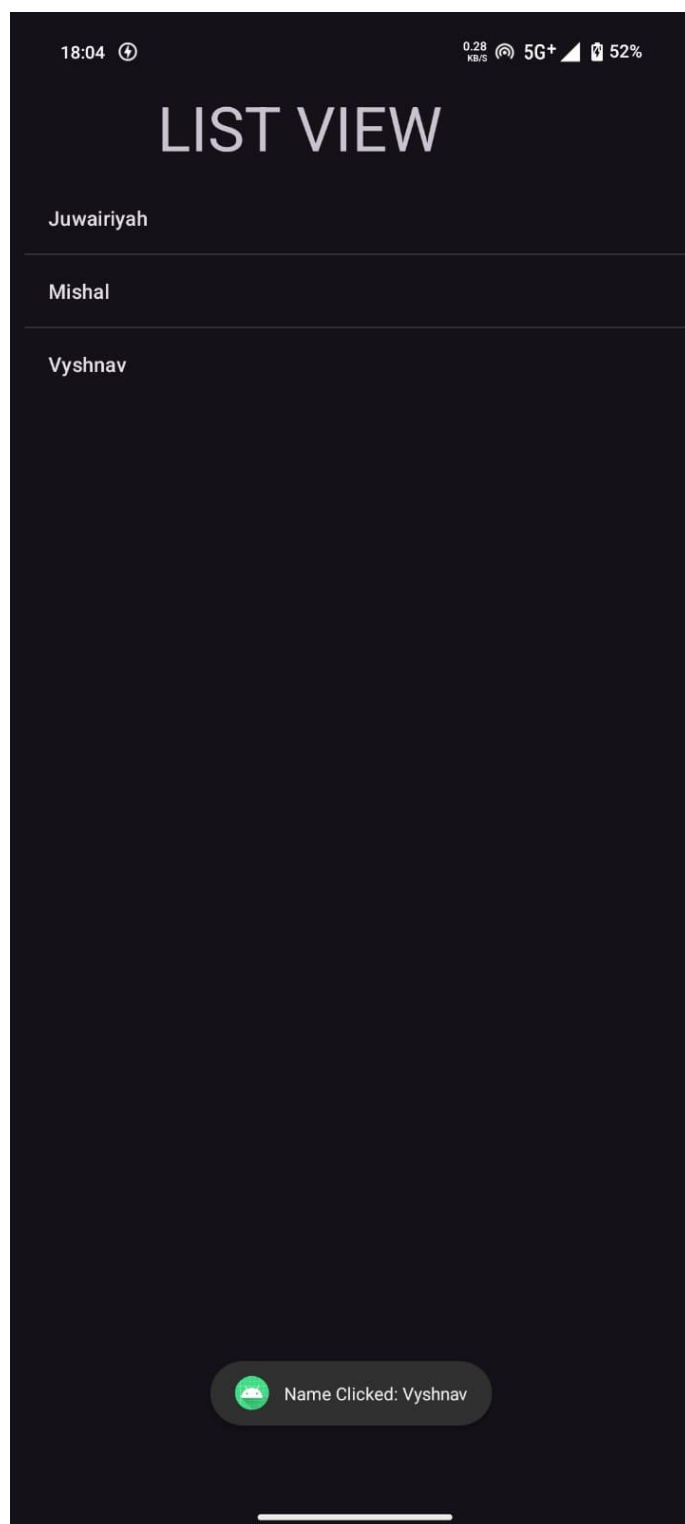
Aim: Create an app to create a List view with few items in it.

Program Code:

MainActivity.java

```
package com.example.listview;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import android.widget.Toast;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity
{
    ListView lv;
    String arr[]={"Juwairiyah","Mishal","Vyshnav"};
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        lv=(ListView) findViewById(R.id.lv);
        ArrayAdapter adapter=new ArrayAdapter<String>(this, android.R.layout.simple_list_item_1,arr);
        lv.setAdapter(adapter);
        lv.setOnItemClickListener(new AdapterView.OnItemClickListener()
        {
            @Override
            public void onItemClick(AdapterView<?> parent, View view, int position, long id)
            {
                Toast.makeText(MainActivity.this,"Name Clicked: "+adapter.getItem(position),
                Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```



Activity_home_page.xml

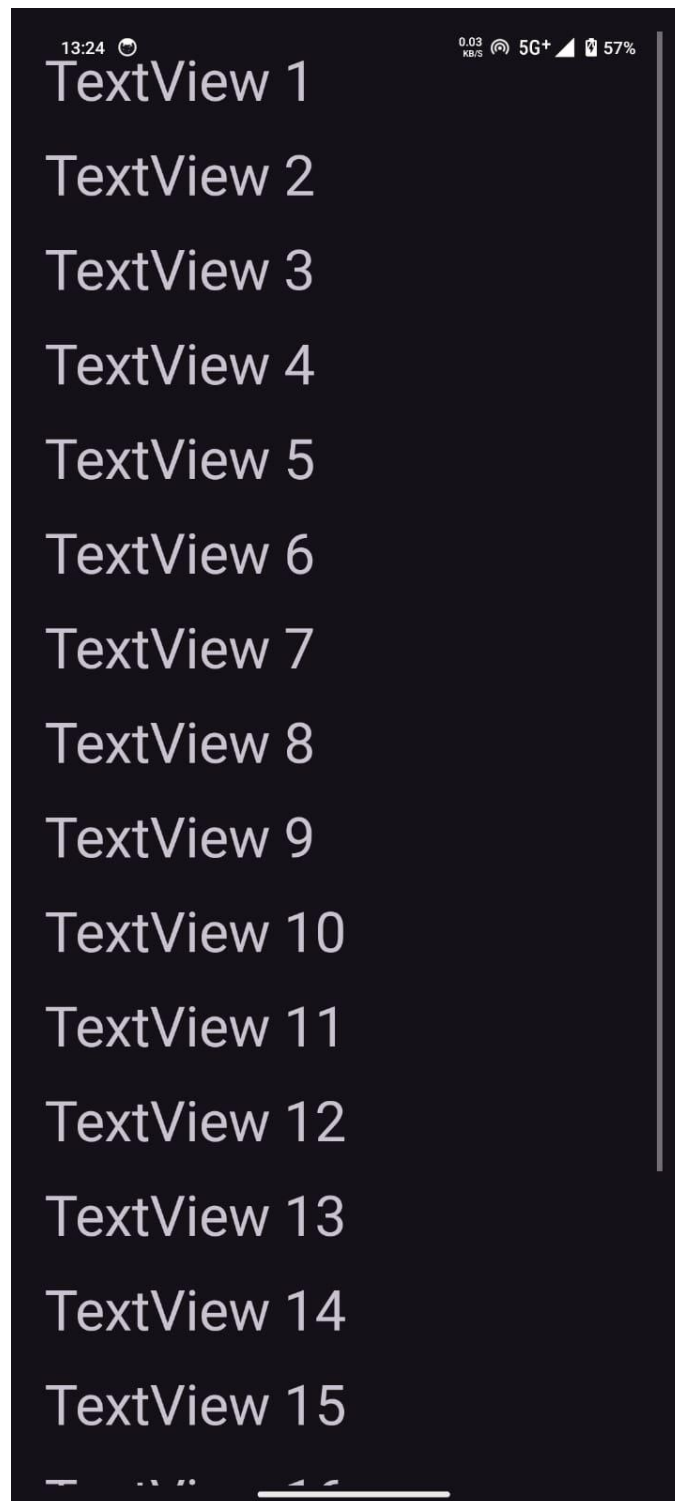
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"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

<RelativeLayout
    android:layout_width="wrap_content"
    android:layout_height="wrap_content">
    <TextView
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="50dp"
        android:layout_marginLeft="100dp"
        android:text="LIST VIEW"
        android:textSize="42dp"></TextView>
```

```
<ListView
    android:id="@+id/lv"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="115dp"
    android:layout_marginBottom="50dp"
    android:layout_marginLeft="10dp">
</ListView>
</RelativeLayout>
</LinearLayout>
```

Result: The program has executed successfully and output is verified.



APP 8: Scroll View

Aim: Create an app to create a spinner and select an item from it.

Program Code:

MainActivity.java

```
package com.example.scrollview;
import android.os.Bundle;
import android.widget.LinearLayout;
import android.widget.TextView;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity
{
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        LinearLayout linearLayout = findViewById(R.id.linearLayoutContainer);
        for (int i = 1; i <= 20; i++)
        {
            TextView textView = new TextView(this);
            textView.setText("TextView " + i);
            textView.setTextSize(45);
            textView.setPadding(16, 16, 16, 16);
            linearLayout.addView(textView);
        }
    }
}
```

Activity_home_page.xml

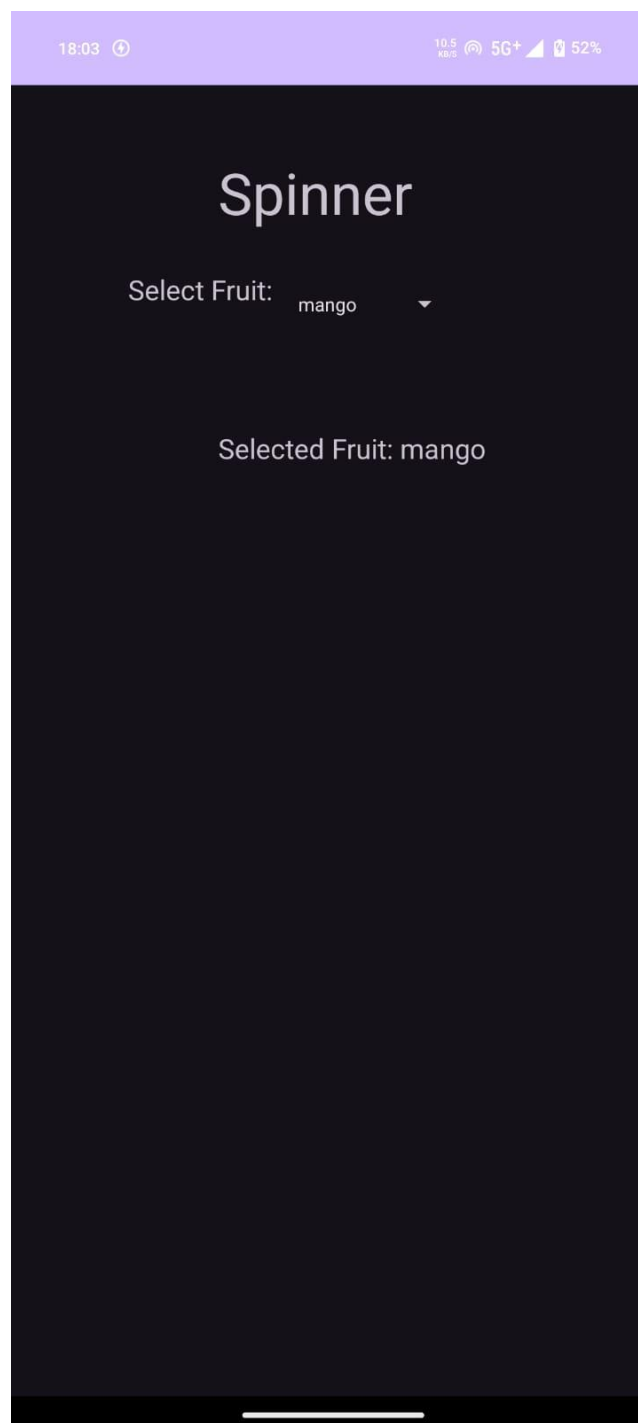
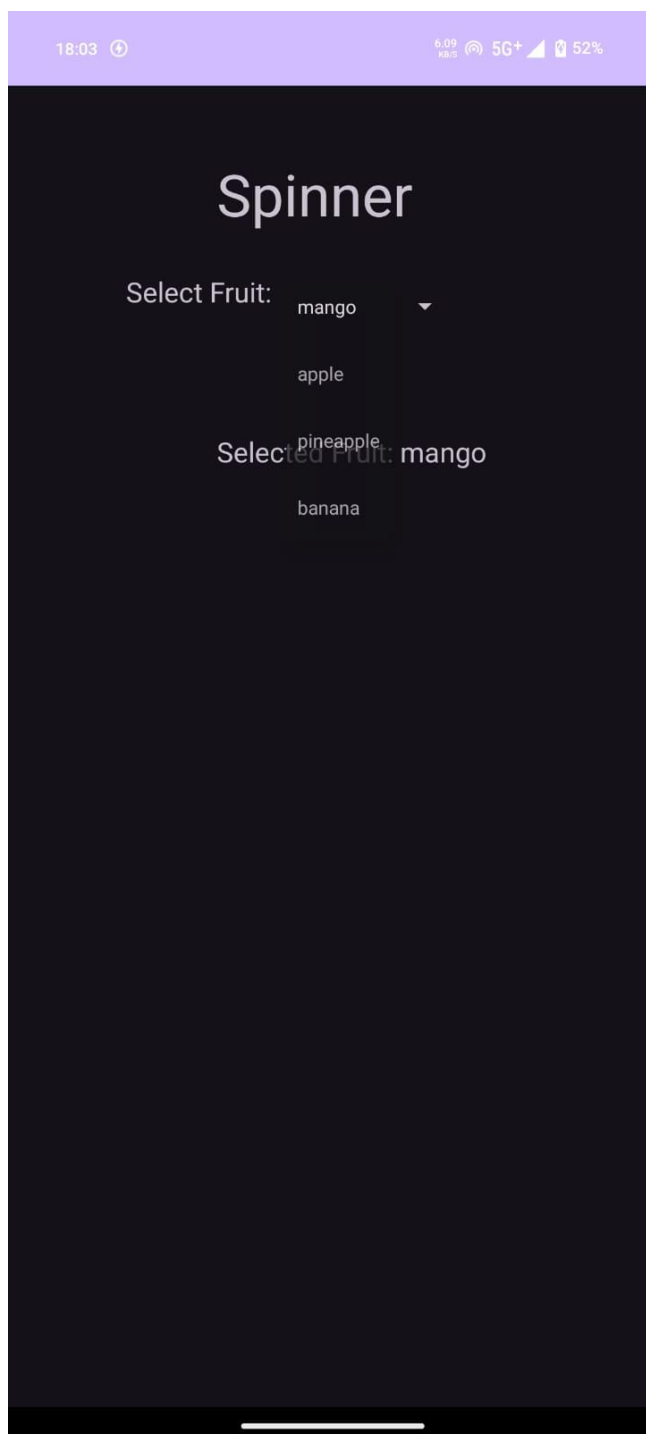
```
<?xml version="1.0" encoding="utf-8"?>
<ScrollView
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:padding="16dp"
```

```
tools:context=".MainActivity">

<LinearLayout
    android:id="@+id/linearLayoutContainer"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">
</LinearLayout>

</ScrollView>
```

Result: The program has executed successfully and output is verified.



APP 10: Shared Preferences

Aim: Create an app to demonstrate the usage of shared preferences by writing and reading data.

Program Code:

MainActivity.java

```
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity
{
    TextView txt;
    Button br,bw;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        txt=(TextView) findViewById(R.id.text_status);
        bw=(Button) findViewById(R.id.btn_write);
        br=(Button) findViewById(R.id.btn_read);
        String usernamedemo="demo1po";
        String emaildemo="demo1@gmail.ou";
        SharedPreferences sp =getSharedPreferences("sp_abc",MODE_PRIVATE);
        bw.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View view)
            {
                SharedPreferences.Editor se = sp.edit();
                se.putString("username",usernamedemo);
                se.putString("email",emaildemo);
                se.apply();
                txt.setText("Written Data");
            }
        });
        br.setOnClickListener(new View.OnClickListener()
        {
            @Override
            public void onClick(View view) {
                String u,e;
```

