Android activity life cycle: Design and develop an application to demonstrate the android activity life cycle. Also demonstrate the whole process through proper diagram.

- **activity_main.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"
    android:orientation="vertical"
    android:padding="16dp">

    <EditText
        android:id="@+id/emailEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Email"
        android:inputType="textEmailAddress" />

    <EditText
        android:id="@+id/passwordEditText"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Password"
        android:inputType="textPassword" />

    <Button
        android:id="@+id/submitButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:layout_marginTop="16dp"/>

    <Button
        android:id="@+id/resetButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Reset"
        android:layout_marginTop="8dp"/>

    <TextView
```

```xml
            android:id="@+id/displayTextView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text=""
            android:layout_marginTop="16dp"
            android:textSize="18sp"/>
    </LinearLayout>
```

- **MainActivity.java**

```java
package com.example.life_cycle;

import android.os.Bundle;
import android.util.Log;
import android.widget.EditText;
import android.widget.TextView;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private EditText emailEditText;
    private EditText passwordEditText;
    private TextView displayTextView;

    private static final String TAG = "life cycle";

    // Called when the activity is first created.
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d(TAG, "onCreate called");
    }



    // Called when the activity becomes visible to the user.
    @Override
    protected void onStart() {
        super.onStart();
```

```java
            Log.d(TAG, "onStart called");
        }

        // Called when the activity starts interacting with the user.
        @Override
        protected void onResume() {
            super.onResume();
            Log.d(TAG, "onResume called");
        }

        // Called when the system is about to put the activity into the background.
        @Override
        protected void onPause() {
            super.onPause();
            Log.d(TAG, "onPause called");
        }

        // Called when the activity is no longer visible to the user.
        @Override
        protected void onStop() {
            super.onStop();
            Log.d(TAG, "onStop called");
        }

        // Called before the activity is destroyed.
        @Override
        protected void onDestroy() {
            super.onDestroy();
            Log.d(TAG, "onDestroy called");
        }

        // Called after the activity has been stopped, just prior to it being started again.
        @Override
        protected void onRestart() {
            super.onRestart();
            Log.d(TAG, "onRestart called");
        }
    }
```
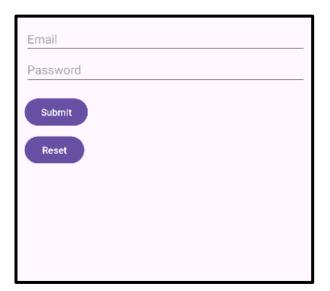
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Student Signature-

- **Output**: -

- **Logcat Output**: -