TURN ON/OFF DATA

AIM & ALGORITHM

AIM :

To create a mobile application that can turn on/off mobile data programmatically.

ALGORITHM :

Step 1:Add the required permissions in the AndroidManifest.xml file.

Step 2:Create a method to check if mobile data is enabled.

Step 3:Implement methods to turn on and off mobile data.

Step 4:Permissions: Add the permissions to your AndroidManifest.xml file

Step 5:Check for Mobile Data State: Create a method to check if the mobile data is enabled. Use the ConnectivityManager class to get the network information.

Step 6:Turn On/Off Mobile Data: Create methods to turn on and off the mobile data. Use reflection to access hidden methods since directly enabling/disabling mobile data is not allowed in Android.

ACTIVITY_MAIN.XML

```xml
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:gravity="center"
    android:padding="16dp">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Mobile Data Toggle"
        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_marginBottom="20dp"/>

    <Button
```

```xml
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Toggle Mobile Data"
        android:textSize="18sp"/>

</LinearLayout>
```

MAINACTIVITY.JAVA

```java
package com.example.mobiledatatoggle;

import android.content.Context;
import android.net.ConnectivityManager;
import android.os.Bundle;
import android.widget.Button;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
import java.lang.reflect.Method;

public class MainActivity extends AppCompatActivity {

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

        Button toggleButton = findViewById(R.id.toggleButton);
        toggleButton.setOnClickListener(v -> toggleMobileData());
    }

    private void toggleMobileData() {
        try {
            ConnectivityManager connectivityManager = (ConnectivityManager)
getSystemService(Context.CONNECTIVITY_SERVICE);
            Method setMobileDataEnabledMethod =
ConnectivityManager.class.getDeclaredMethod("setMobileDataEnabled",
boolean.class);
            setMobileDataEnabledMethod.setAccessible(true);

            // Check current mobile data state
            Method getMobileDataEnabledMethod =
ConnectivityManager.class.getDeclaredMethod("getMobileDataEnabled");
            getMobileDataEnabledMethod.setAccessible(true);
            boolean isMobileDataEnabled = (Boolean)
getMobileDataEnabledMethod.invoke(connectivityManager);
```

```
            // Toggle mobile data
            setMobileDataEnabledMethod.invoke(connectivityManager,
!isMobileDataEnabled);
            Toast.makeText(this, "Mobile Data " + (!isMobileDataEnabled ?
"Enabled" : "Disabled"), Toast.LENGTH_SHORT).show();
        } catch (Exception e) {
            e.printStackTrace();
            Toast.makeText(this, "Error toggling mobile data. Requires
system-level access.", Toast.LENGTH_LONG).show();
        }
    }
}
```

ANDROIDMAINFEST.XML

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

    <!-- Permissions required for modifying network settings -->
    <uses-permission android:name="android.permission.CHANGE_NETWORK_STATE"/>
    <uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"/>

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.AppCompat.Light.DarkActionBar">
        <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>
```