MOBILE APPLICATION DEVELOPMENT

LAB EXERCISE 7b- Add maps to app and customize the map

KARTHIGA N

22BCS046

Include the OSMAndroid dependency to access the map:

Gradle Build file:

Dependencies:

```
dependencies {
    implementation 'androidx.appcompat:appcompat:1.4.1'
    implementation 'com.google.android.material:material:1.5.0'
    implementation 'androidx.constraintlayout:constraintlayout:2.1.3'
    implementation 'org.osmdroid:osmdroid-android:6.1.11'
    testImplementation 'junit:junit:4.13.2'
    androidTestImplementation 'androidx.test.ext:junit:1.1.3'
    androidTestImplementation 'androidx.test.espresso:espresso-core:3.4.0'}
```

Android Manifest file:

```
<uses-permission android:name="android.permission.INTERNET"/>
<uses-permission android:name="android.permission.ACCESS_NETWORK_STATE"/>
<uses-permission android:name="android.permission.WRITE_EXTERNAL_STORAGE"/>
```

MainActivity.java:

```java
package com.example.map;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import org.osmdroid.config.Configuration;
import org.osmdroid.util.GeoPoint;
import org.osmdroid.views.MapView;
import org.osmdroid.views.overlay.Marker;

public class MainActivity extends AppCompatActivity {
    MapView map;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);

        // Load OSMDroid configuration
        Configuration.getInstance().load(getApplicationContext(),
getPreferences(MODE_PRIVATE));

        setContentView(R.layout.activity_main);

        map = findViewById(R.id.map);
        map.setMultiTouchControls(true);

        // Set default location (Coimbatore)
```

```java
        GeoPoint startPoint = new GeoPoint(11.0168, 76.9558);
        map.getController().setZoom(14.0);
        map.getController().setCenter(startPoint);

        // Add Marker
        Marker marker = new Marker(map);
        marker.setPosition(startPoint);
        marker.setTitle("You are here!");
        map.getOverlays().add(marker);
    }
}
```

activity_main.xml:

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

    <org.osmdroid.views.MapView
        android:id="@+id/map"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_centerInParent="true" />

</RelativeLayout>
```

Output: