Javacode:

package com.example.mad\_ex7\_gps;

import androidx.appcompat.app.AppCompatActivity;

import android.Manifest;

import android.annotation.SuppressLint;

import android.content.Context;

import android.content.Intent;

import android.content.pm.PackageManager;

import android.location.Location;

import android.location.LocationManager;

import android.os.Bundle;

import android.os.Looper;

import android.provider.Settings;

import android.widget.TextView;

import android.widget.Toast;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import com.google.android.gms.location.FusedLocationProviderClient;

import com.google.android.gms.location.LocationCallback;

import com.google.android.gms.location.LocationRequest;

import com.google.android.gms.location.LocationResult;

import com.google.android.gms.location.LocationServices;

import com.google.android.gms.tasks.OnCompleteListener;

import com.google.android.gms.tasks.Task;

import android.os.Bundle;

public class MainActivity extends AppCompatActivity {

FusedLocationProviderClient mFusedLocationClient;

// Initializing other items

// from layout file

TextView latitudeTextView, longitTextView;

int PERMISSION\_ID = 44;

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

latitudeTextView = findViewById(R.id.lattitudeVal);

longitTextView = findViewById(R.id.longitudeVal);

mFusedLocationClient = LocationServices.getFusedLocationProviderClient(this);

// method to get the location

getLastLocation();

}

@SuppressLint("MissingPermission")

private void getLastLocation() {

// check if permissions are given

if (checkPermissions()) {

// check if location is enabled

if (isLocationEnabled()) {

// getting last

// location from

// FusedLocationClient

// object

mFusedLocationClient.getLastLocation().addOnCompleteListener(new OnCompleteListener<Location>() {

@Override

public void onComplete(@NonNull Task<Location> task) {

Location location = task.getResult();

if (location == null) {

requestNewLocationData();

} else {

latitudeTextView.setText(location.getLatitude() + "");

longitTextView.setText(location.getLongitude() + "");

}

}

});

} else {

Toast.makeText(this, "Please turn on" + " your location...", Toast.LENGTH\_LONG).show();

Intent intent = new Intent(Settings.ACTION\_LOCATION\_SOURCE\_SETTINGS);

startActivity(intent);

}

} else {

// if permissions aren't available,

// request for permissions

requestPermissions();

}

}

@SuppressLint("MissingPermission")

private void requestNewLocationData() {

// Initializing LocationRequest

// object with appropriate methods

LocationRequest mLocationRequest = new LocationRequest();

mLocationRequest.setPriority(LocationRequest.PRIORITY\_HIGH\_ACCURACY);

mLocationRequest.setInterval(5);

mLocationRequest.setFastestInterval(0);

mLocationRequest.setNumUpdates(1);

// setting LocationRequest

// on FusedLocationClient

mFusedLocationClient = LocationServices.getFusedLocationProviderClient(this);

mFusedLocationClient.requestLocationUpdates(mLocationRequest, mLocationCallback, Looper.myLooper());

}

private LocationCallback mLocationCallback = new LocationCallback() {

@Override

public void onLocationResult(LocationResult locationResult) {

Location mLastLocation = locationResult.getLastLocation();

latitudeTextView.setText("Latitude: " + mLastLocation.getLatitude() + "");

longitTextView.setText("Longitude: " + mLastLocation.getLongitude() + "");

}

};

// method to check for permissions

private boolean checkPermissions() {

return ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_COARSE\_LOCATION) == PackageManager.PERMISSION\_GRANTED && ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_FINE\_LOCATION) == PackageManager.PERMISSION\_GRANTED;

// If we want background location

// on Android 10.0 and higher,

// use:

// ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_BACKGROUND\_LOCATION) == PackageManager.PERMISSION\_GRANTED

}

// method to request for permissions

private void requestPermissions() {

ActivityCompat.requestPermissions(this, new String[]{

Manifest.permission.ACCESS\_COARSE\_LOCATION,

Manifest.permission.ACCESS\_FINE\_LOCATION}, PERMISSION\_ID);

}

// method to check

// if location is enabled

private boolean isLocationEnabled() {

LocationManager locationManager = (LocationManager) getSystemService(Context.LOCATION\_SERVICE);

return locationManager.isProviderEnabled(LocationManager.GPS\_PROVIDER) || locationManager.isProviderEnabled(LocationManager.NETWORK\_PROVIDER);

}

// If everything is alright then

@Override

public void

onRequestPermissionsResult(int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults) {

super.onRequestPermissionsResult(requestCode, permissions, grantResults);

if (requestCode == PERMISSION\_ID) {

if (grantResults.length > 0 && grantResults[0] == PackageManager.PERMISSION\_GRANTED) {

getLastLocation();

}

}

}

@Override

public void onResume() {

super.onResume();

if (checkPermissions()) {

getLastLocation();

}

}

}

Activity\_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="@color/teal\_700"

tools:context=".MainActivity" >

<TextView

android:id="@+id/lattitude"

android:layout\_width="97dp"

android:layout\_height="43dp"

android:layout\_marginStart="40dp"

android:layout\_marginTop="256dp"

android:text="Lattitude"

android:textColor="@color/white"

android:textSize="24sp"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<TextView

android:id="@+id/lattitude2"

android:layout\_width="117dp"

android:layout\_height="38dp"

android:layout\_marginStart="32dp"

android:layout\_marginTop="344dp"

android:text="Longitude"

android:textColor="@color/white"

android:textSize="24sp"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<EditText

android:id="@+id/lattitudeVal"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="20dp"

android:layout\_marginTop="248dp"

android:ems="10"

android:inputType="textPersonName"

android:textSize="20sp"

app:layout\_constraintStart\_toEndOf="@+id/lattitude"

app:layout\_constraintTop\_toTopOf="parent" />

<EditText

android:id="@+id/longitudeVal"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginStart="8dp"

android:layout\_marginTop="344dp"

android:ems="10"

android:inputType="textPersonName"

android:textSize="20sp"

app:layout\_constraintStart\_toEndOf="@+id/lattitude2"

app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

Manifest.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"

package="com.example.mad\_ex7\_gps">

<uses-permission android:name="android.permission.ACCESS\_COARSE\_LOCATION" />

<uses-permission android:name="android.permission.ACCESS\_FINE\_LOCATION" />

<uses-permission android:name="android.permission.ACCESS\_BACKGROUND\_LOCATION" />

<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.MAD\_Ex7\_GPS"

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>