PRACTICAL 6

AIM: Develop an android application that uses GPS location information.

CODE:

MainActivity.java

package com.example.practical\_6;

import android.Manifest;

import android.annotation.SuppressLint;

import android.content.pm.PackageManager;

import android.location.Location;

import android.location.LocationListener;

import android.location.LocationManager;

import android.os.Bundle;

import android.widget.TextView;

import androidx.annotation.NonNull;

import androidx.appcompat.app.AppCompatActivity;

import androidx.core.app.ActivityCompat;

import androidx.core.content.ContextCompat;

public class MainActivity extends AppCompatActivity {

private static final int LOCATION\_PERMISSION\_REQUEST = 123;

private LocationManager locationManager;

private TextView locationTextView;

@SuppressLint("MissingInflatedId")

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

locationTextView = findViewById(R.id.locationTextView);

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

if (checkLocationPermission()) {

// Permission is granted. You can request location updates here.

requestLocationUpdates();

}

}

private boolean checkLocationPermission() {

String permission = Manifest.permission.ACCESS\_FINE\_LOCATION;

if (ContextCompat.checkSelfPermission(this, permission) == PackageManager.PERMISSION\_GRANTED) {

return true;

} else {

ActivityCompat.requestPermissions(this, new String[]{permission}, LOCATION\_PERMISSION\_REQUEST);

return false;

}

}

private void requestLocationUpdates() {

LocationListener locationListener = new LocationListener() {

@Override

public void onLocationChanged(@NonNull Location location) {

// Handle location updates here.

locationTextView.setText("Latitude: " + location.getLatitude() + "\nLongitude: " + location.getLongitude());

}

@Override

public void onStatusChanged(String provider, int status, Bundle extras) {

}

@Override

public void onProviderEnabled(String provider) {

}

@Override

public void onProviderDisabled(String provider) {

}

};

// Request location updates using the GPS provider.

if (ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_FINE\_LOCATION) != PackageManager.PERMISSION\_GRANTED && ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_COARSE\_LOCATION) != PackageManager.PERMISSION\_GRANTED) {

// TODO: Consider calling

// ActivityCompat#requestPermissions

// here to request the missing permissions, and then overriding

// public void onRequestPermissionsResult(int requestCode, String[] permissions,

// int[] grantResults)

// to handle the case where the user grants the permission. See the documentation

// for ActivityCompat#requestPermissions for more details.

return;

}

locationManager.requestLocationUpdates(LocationManager.GPS\_PROVIDER, 0, 0, locationListener);

}

}

}

activity\_main.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:layout\_width="match\_parent"

android:layout\_height="match\_parent"

android:orientation="vertical"

android:padding="16dp"

android:gravity="center">

<TextView

android:id="@+id/locationTextView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Location: "

android:textSize="18sp"

android:textStyle="bold"

android:gravity="center"

android:layout\_gravity="center"/>

<Button

android:id="@+id/getLocationButton"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Get Location"

android:textSize="16sp"

android:layout\_gravity="center"

android:onClick="onGetLocationClick"/>

</LinearLayout>

OUTPUT:

