Ex: 6

AndroidManifest.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">  
 <uses-permission android:name="android.permission.ACCESS\_FINE\_LOCATION" />  
 <uses-permission android:name="android.permission.ACCESS\_COARSE\_LOCATION" />  
 <application  
 android:allowBackup="true"  
 android:icon="@mipmap/ic\_launcher"  
 android:label="@string/app\_name"  
 android:theme="@style/Theme.AppCompat.DayNight.NoActionBar">  
 <activity android:name=".MainActivity"  
 android:label="@string/app\_name"  
 android:exported="true">  
 <intent-filter>  
 <action android:name="android.intent.action.MAIN" />  
 <category android:name="android.intent.category.LAUNCHER" />  
 </intent-filter>  
 </activity>  
 </application>  
  
  
</manifest>

MainActivity.java:

package com.example.location;  
  
import android.Manifest;  
import android.content.pm.PackageManager;  
import android.location.Criteria;  
import android.location.Location;  
import android.location.LocationListener;  
import android.location.LocationManager;  
import android.os.Bundle;  
import android.widget.Button;  
import android.widget.Toast;  
import androidx.appcompat.app.AppCompatActivity;  
import androidx.core.app.ActivityCompat;  
  
public class MainActivity extends AppCompatActivity {  
  
 private LocationManager locationManager;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 locationManager = (LocationManager) getSystemService(*LOCATION\_SERVICE*);  
  
 Button getLocationButton = findViewById(R.id.*get\_location\_button*);  
 getLocationButton.setOnClickListener(v -> fetchLocation());  
 }  
  
 private void fetchLocation() {  
 *// Check if permissions are granted* if (ActivityCompat.*checkSelfPermission*(this, Manifest.permission.*ACCESS\_FINE\_LOCATION*) != PackageManager.*PERMISSION\_GRANTED* && ActivityCompat.*checkSelfPermission*(this, Manifest.permission.*ACCESS\_COARSE\_LOCATION*) != PackageManager.*PERMISSION\_GRANTED*) {  
 *// Request permissions if not granted* ActivityCompat.*requestPermissions*(this, new String[]{Manifest.permission.*ACCESS\_FINE\_LOCATION*, Manifest.permission.*ACCESS\_COARSE\_LOCATION*}, 1);  
 return;  
 }  
  
 *// Create a LocationListener to get location updates* LocationListener locationListener = new LocationListener() {  
 @Override  
 public void onLocationChanged(Location location) {  
 *// Location updated, get latitude and longitude* if (location != null) {  
 double latitude = location.getLatitude();  
 double longitude = location.getLongitude();  
 Toast.*makeText*(MainActivity.this, "Latitude: " + latitude + "\nLongitude: " + longitude, Toast.*LENGTH\_LONG*).show();  
 }  
 }  
  
 @Override  
 public void onStatusChanged(String provider, int status, Bundle extras) {}  
  
 @Override  
 public void onProviderEnabled(String provider) {}  
  
 @Override  
 public void onProviderDisabled(String provider) {}  
 };  
  
 *// Use the best provider for location updates (GPS or Network)* Criteria criteria = new Criteria();  
 String bestProvider = locationManager.getBestProvider(criteria, true);  
  
 *// Request location updates from the provider* try {  
 locationManager.requestLocationUpdates(bestProvider, 1000, 1, locationListener); *// 1000 ms, 1 meter* } catch (SecurityException e) {  
 e.printStackTrace();  
 Toast.*makeText*(this, "Error fetching location.", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
  
 *// Handling permission request result* @Override  
 public void onRequestPermissionsResult(int requestCode, String[] permissions, int[] grantResults) {  
 super.onRequestPermissionsResult(requestCode, permissions, grantResults);  
  
 if (requestCode == 1) {  
 if (grantResults.length > 0 && grantResults[0] == PackageManager.*PERMISSION\_GRANTED*) {  
 *// Permission granted, fetch location* fetchLocation();  
 } else {  
 Toast.*makeText*(this, "Permission denied. Cannot fetch location.", Toast.*LENGTH\_SHORT*).show();  
 }  
 }  
 }  
}

activity\_main.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:gravity="center"  
 android:padding="16dp">  
  
 <Button  
 android:id="@+id/get\_location\_button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Get Current Location"  
 android:textSize="18sp" />  
  
</LinearLayout>