**Practical No. 12**

**Aim :** Program to get Geo Location of a place

**Performed by :** Parth Khichi

**Class :** BCA-III Sem-V

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**Code :**

**MainActivity.java**

package com.example.location;  
  
import android.Manifest;  
import android.content.pm.PackageManager;  
import android.location.Location;  
import android.os.Bundle;  
import android.widget.Button;  
import android.widget.TextView;  
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.LocationServices;  
import com.google.android.gms.tasks.OnCompleteListener;  
import com.google.android.gms.tasks.Task;  
  
public class MainActivity extends AppCompatActivity {  
  
 private FusedLocationProviderClient fusedLocationClient;  
 private TextView tvLocation;  
 private static final int LOCATION\_REQUEST\_CODE = 1000;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.activity\_main);  
  
 tvLocation = findViewById(R.id.tvLocation);  
 Button btnGetLocation = findViewById(R.id.btnGetLocation);  
  
 fusedLocationClient = LocationServices.getFusedLocationProviderClient(this);  
  
 btnGetLocation.setOnClickListener(v -> getLocation());  
 }  
  
 private void getLocation() {  
 if (ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_FINE\_LOCATION) != PackageManager.PERMISSION\_GRANTED &&  
 ActivityCompat.checkSelfPermission(this, Manifest.permission.ACCESS\_COARSE\_LOCATION) != PackageManager.PERMISSION\_GRANTED) {  
 ActivityCompat.requestPermissions(this, new String[]{Manifest.permission.ACCESS\_FINE\_LOCATION}, LOCATION\_REQUEST\_CODE);  
 return;  
 }  
  
 fusedLocationClient.getLastLocation().addOnCompleteListener(new OnCompleteListener<Location>() {  
 @Override  
 public void onComplete(@NonNull Task<Location> task) {  
 if (task.isSuccessful() && task.getResult() != null) {  
 Location location = task.getResult();  
 tvLocation.setText("Latitude: " + location.getLatitude() + "\nLongitude: " + location.getLongitude());  
 } else {  
 tvLocation.setText("Failed to get location");  
 }  
 }  
 });  
 }  
  
 @Override  
 public void onRequestPermissionsResult(int requestCode, @NonNull String[] permissions, @NonNull int[] grantResults) {  
 super.onRequestPermissionsResult(requestCode, permissions, grantResults);  
 if (requestCode == LOCATION\_REQUEST\_CODE && grantResults.length > 0 && grantResults[0] == PackageManager.PERMISSION\_GRANTED) {  
 getLocation();  
 }  
 }  
}

**activity\_main.xml**

<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <Button  
 android:id="@+id/btnGetLocation"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Get Location"  
 android:layout\_centerInParent="true"/>  
  
 <TextView  
 android:id="@+id/tvLocation"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@id/btnGetLocation"  
 android:layout\_marginTop="20dp"  
 android:layout\_centerHorizontal="true"/>  
 </RelativeLayout>

<?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: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.Location"  
 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>

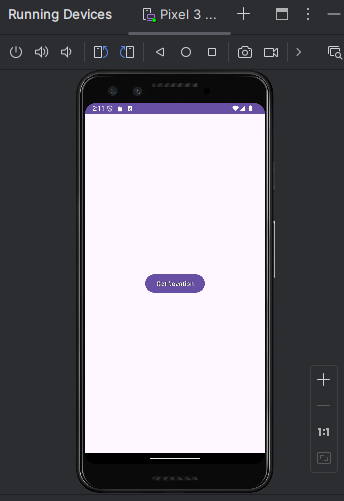
**build.gradle.kts(:app)**

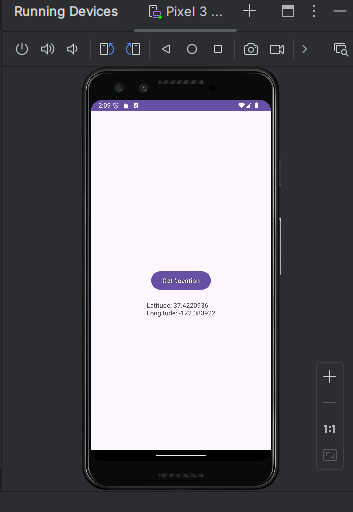
plugins {  
 alias(libs.plugins.android.application)  
}  
  
android {  
 namespace = "com.example.location"  
 compileSdk = 34  
  
 defaultConfig {  
 applicationId = "com.example.location"  
 minSdk = 24  
 targetSdk = 34  
 versionCode = 1  
 versionName = "1.0"  
 testInstrumentationRunner = "androidx.test.runner.AndroidJUnitRunner"  
 }  
  
 buildTypes {  
 release {  
 isMinifyEnabled = false  
 proguardFiles(  
 getDefaultProguardFile("proguard-android-optimize.txt"),  
 "proguard-rules.pro"  
 )  
 }  
 }  
 compileOptions {  
 sourceCompatibility = JavaVersion.VERSION\_1\_8  
 targetCompatibility = JavaVersion.VERSION\_1\_8  
 }  
}  
  
dependencies {  
 implementation(libs.appcompat)  
 implementation(libs.material)  
 implementation(libs.activity)  
 implementation(libs.constraintlayout)  
 testImplementation(libs.junit)  
 androidTestImplementation(libs.ext.junit)  
 androidTestImplementation(libs.espresso.core)  
 implementation(libs.playServicesLocation)  
}

**libs.versions.toml**

[versions]  
agp = "8.5.1"  
junit = "4.13.2"  
junitVersion = "1.2.1"  
espressoCore = "3.6.1"  
appcompat = "1.7.0"  
material = "1.12.0"  
activity = "1.9.2"  
constraintlayout = "2.1.4"  
gmsLocation = "21.0.1"  
  
[libraries]  
junit = { group = "junit", name = "junit", version.ref = "junit" }  
ext-junit = { group = "androidx.test.ext", name = "junit", version.ref = "junitVersion" }  
espresso-core = { group = "androidx.test.espresso", name = "espresso-core", version.ref = "espressoCore" }  
appcompat = { group = "androidx.appcompat", name = "appcompat", version.ref = "appcompat" }  
material = { group = "com.google.android.material", name = "material", version.ref = "material" }  
activity = { group = "androidx.activity", name = "activity", version.ref = "activity" }  
constraintlayout = { group = "androidx.constraintlayout", name = "constraintlayout", version.ref = "constraintlayout" }  
playServicesLocation = { group = "com.google.android.gms", name = "play-services-location", version.ref = "gmsLocation" }  
  
[plugins]  
android-application = { id = "com.android.application", version.ref = "agp" }

**Output :**

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