Slip no – 9

Q1. Write an Android application to accept two numbers from the user, and display them, but reject input if both numbers are greater than 10 and asks for two new numbers.

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:padding*="16dp"  
 *android:orientation*="vertical"  
 *tools:context*=".MainActivity">  
  
 <EditText  
 *android:id*="@+id/first\_number\_edittext"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:hint*="Enter first number"  
 *android:inputType*="number" />  
  
 <EditText  
 *android:id*="@+id/second\_number\_edittext"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:hint*="Enter second number"  
 *android:inputType*="number" />  
  
 <Button  
 *android:id*="@+id/submit\_button"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:text*="Submit" />  
  
 <TextView  
 *android:id*="@+id/result\_textview"  
 *android:layout\_width*="match\_parent"  
 *android:layout\_height*="wrap\_content"  
 *android:paddingTop*="16dp" />  
  
</LinearLayout>

MainActivity.java

*package* com.example.slipno5;  
  
*import* androidx.appcompat.app.AppCompatActivity;  
*import* android.os.Bundle;  
*import* android.view.View;  
*import* android.widget.Button;  
*import* android.widget.EditText;  
*import* android.widget.TextView;  
*import* android.widget.Toast;  
  
*public class* MainActivity *extends* AppCompatActivity {  
  
 *private* EditText firstNumberEditText;  
 *private* EditText secondNumberEditText;  
 *private* Button submitButton;  
 *private* TextView resultTextView;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 firstNumberEditText = findViewById(R.id.*first\_number\_edittext*);  
 secondNumberEditText = findViewById(R.id.*second\_number\_edittext*);  
 submitButton = findViewById(R.id.*submit\_button*);  
 resultTextView = findViewById(R.id.*result\_textview*);  
  
 submitButton.setOnClickListener(*new* View.OnClickListener() {  
 @Override  
 *public void* onClick(View view) {  
  
 String firstNumberString = firstNumberEditText.getText().toString();  
 String secondNumberString = secondNumberEditText.getText().toString();  
  
 *if* (firstNumberString.isEmpty() || secondNumberString.isEmpty()) {  
 Toast.*makeText*(MainActivity.*this*, "Please enter two numbers", Toast.***LENGTH\_SHORT***).show();  
 *return*;  
 }  
  
 *int* firstNumber = Integer.*parseInt*(firstNumberString);  
 *int* secondNumber = Integer.*parseInt*(secondNumberString);  
  
 *if* (firstNumber >10 && secondNumber >10) {  
 Toast.*makeText*(MainActivity.*this*, "Both numbers cannot be greater than 10", Toast.***LENGTH\_SHORT***).show();  
 firstNumberEditText.getText().clear();  
 secondNumberEditText.getText().clear();  
 *return*;  
 }  
  
 String resultString = "First number: " + firstNumber + "\n" + "Second number: " + secondNumber;  
 resultTextView.setText(resultString);  
 }  
 });  
 }  
}

Q2. Write a program to find the specific location of an Android device and display details ofthe place like Address line, city with Geocoding.

* Add only these dependencies on these file build.gradle.kts these file under the Gradle Scripts then sync the file for download location services dependencies.

*implementation*("com.google.android.gms:play-services-location:18.0.0")

These permission and API key add your AndroidManifest.xml file over the application tag

<uses-permission *android:name*="android.permission.ACCESS\_FINE\_LOCATION" />  
<uses-permission *android:name*="android.permission.INTERNET" />  
<uses-permission *android:name*="android.permission.ACCESS\_COARSE\_LOCATION" />  
<meta-data  
 *android:name*="com.google.android.geo.API\_KEY"  
 *android:value*="AIzaSyDQQOMi9qvZVesWH5wHCXeijEkV4INPA3Y" />

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">  
 <TextView  
 *android:id*="@+id/locationTextView"  
 *android:layout\_width*="wrap\_content"  
 *android:layout\_height*="wrap\_content"  
 *android:textSize*="18sp"  
 *android:padding*="16dp"/>  
</RelativeLayout>

MainActivity.java

*package* com.example.slipno5;  
  
*import* android.Manifest;  
*import* android.content.pm.PackageManager;  
*import* android.location.Address;  
*import* android.location.Geocoder;  
*import* android.location.Location;  
*import* android.os.Bundle;  
*import* android.widget.TextView;  
*import* android.widget.Toast;  
*import* androidx.annotation.NonNull;  
*import* androidx.appcompat.app.AppCompatActivity;  
*import* androidx.core.app.ActivityCompat;  
*import* androidx.core.content.ContextCompat;  
  
*import* com.google.android.gms.location.FusedLocationProviderClient;  
*import* com.google.android.gms.location.LocationServices;  
  
*import* java.io.IOException;  
*import* java.util.*List*;  
*import* java.util.Locale;  
  
*public class* MainActivity *extends* AppCompatActivity {  
 *private static final int* ***LOCATION\_PERMISSION\_REQUEST\_CODE*** = 100;  
 *private* TextView locationTextView;  
 *private* FusedLocationProviderClient fusedLocationClient;  
  
 @Override  
 *protected void* onCreate(Bundle savedInstanceState) {  
 *super*.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 locationTextView = findViewById(R.id.*locationTextView*);  
 fusedLocationClient = LocationServices.*getFusedLocationProviderClient*(*this*);  
  
 *// Check for location permission  
 if* (ContextCompat.*checkSelfPermission*(*this*,  
 Manifest.permission.***ACCESS\_FINE\_LOCATION***)  
 != PackageManager.***PERMISSION\_GRANTED***) {  
 *// Request location permission* ActivityCompat.*requestPermissions*(*this*,  
 *new* String[]{Manifest.permission.***ACCESS\_FINE\_LOCATION***},  
 ***LOCATION\_PERMISSION\_REQUEST\_CODE***);  
 } *else* {  
 *// Permission already granted* getLocation();  
 }  
 }  
  
 *private void* getLocation() {  
 *try* {  
 fusedLocationClient.getLastLocation()  
 .addOnSuccessListener(*this*, location -> {  
 *if* (location != *null*) {  
 *// Display address details if location is available* displayAddressDetails(location);  
 } *else* {  
 *// Location not available* locationTextView.setText("Location not available");  
 }  
 });  
 } *catch* (SecurityException e) {  
 e.printStackTrace();  
 locationTextView.setText("Error: " + e.getMessage());  
 }  
 }  
  
 *private void* displayAddressDetails(Location location) {  
 Geocoder geocoder = *new* Geocoder(*this*, Locale.*getDefault*());  
 *try* {  
 *List*<Address> addresses = geocoder.getFromLocation(  
 location.getLatitude(),  
 location.getLongitude(),  
 1);  
 *if* (!addresses.isEmpty()) {  
 Address address = addresses.get(0);  
 String addressDetails = address.getAddressLine(0) + "\n" +  
 address.getLocality() + ", " +  
 address.getAdminArea() + "\n" +  
 address.getCountryName() + "\n" +  
 address.getPostalCode();  
 locationTextView.setText(addressDetails);  
 } *else* {  
 locationTextView.setText("Address not found");  
 }  
 } *catch* (IOException e) {  
 e.printStackTrace();  
 locationTextView.setText("Error: " + e.getMessage());  
 }  
 }  
  
 @Override  
 *public void* onRequestPermissionsResult(*int* requestCode, @NonNull String[] permissions, @NonNull *int*[] grantResults) {  
 *super*.onRequestPermissionsResult(requestCode, permissions, grantResults);  
 *if* (requestCode == ***LOCATION\_PERMISSION\_REQUEST\_CODE***) {  
 *if* (grantResults.length > 0 && grantResults[0] == PackageManager.***PERMISSION\_GRANTED***) {  
 *// Permission granted, get location* getLocation();  
 } *else* {  
 *// Permission denied, show message* Toast.*makeText*(*this*, "Location permission denied", Toast.***LENGTH\_SHORT***).show();  
 }  
 }  
 }  
}