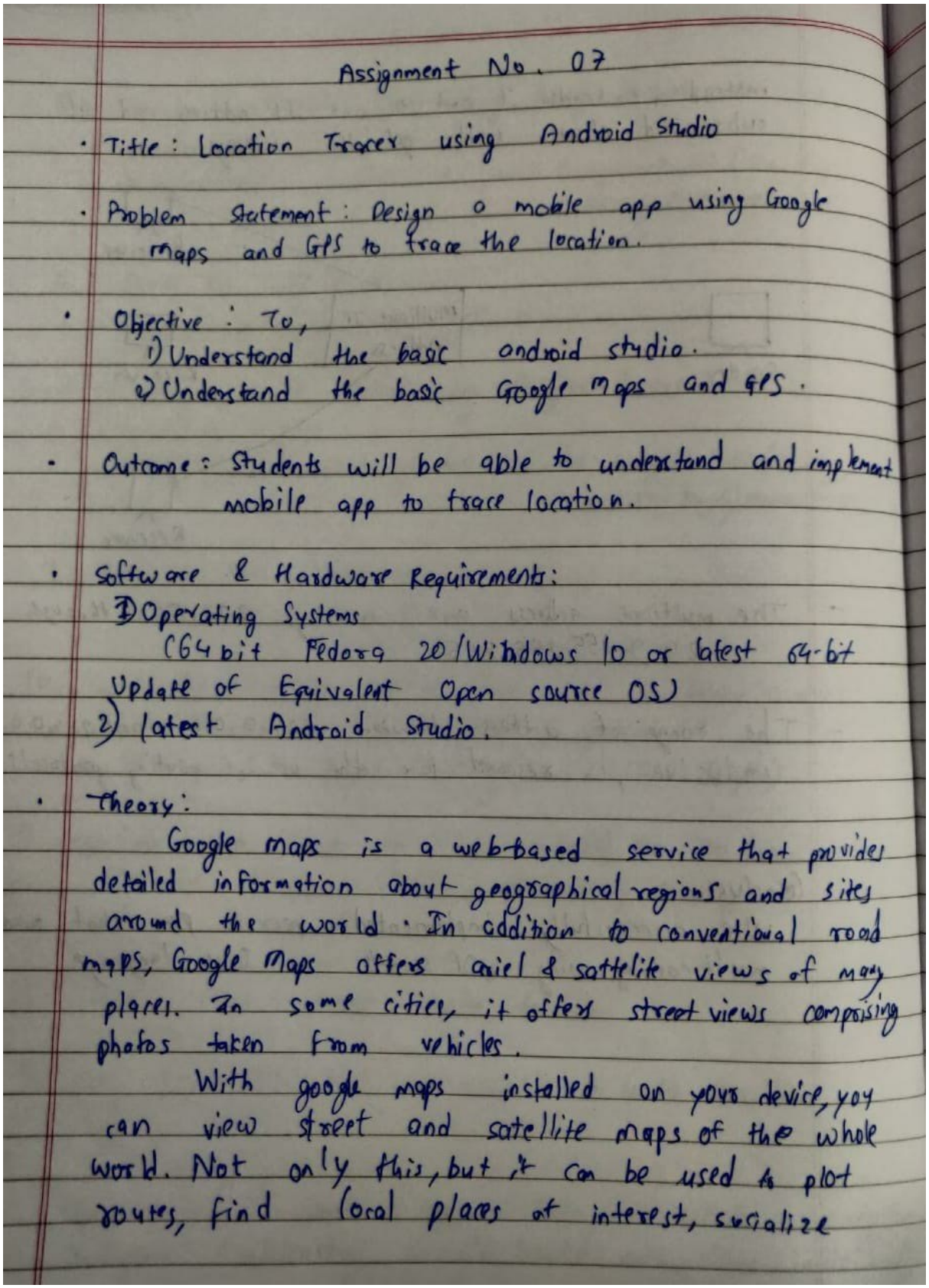
//31139-Durvesh-SDLA7

Writeup



Assignment No. 07

- Title : Location Tracer using Android Studio
- Problem Statement : Design a mobile app using Google maps and GPS to trace the location.
- Objective : To,
  1) Understand the basic android studio.
  2) Understand the basic Google maps and GPS.
- Outcome : Students will be able to understand and implement mobile app to trace location.
- Software & Hardware Requirements:
  1) Operating Systems
     (64 bit Fedora 20 / Windows 10 or latest 64-bit Update of Equivalent Open source OS)
  2) latest Android Studio.
- Theory:

Google maps is a web-based service that provides detailed information about geographical regions and sites around the world. In addition to conventional road maps, Google Maps offers aeiel & sattelite views of many places. In some cities, it offers street views comprising photos taken from vehicles.

With google maps installed on your device, you can view street and satellite maps of the whole world. Not only this, but it can be used to plot routes, find local places of interest, socialize

with people around you and 'walk' along roads with Google's street view.

Google Maps is incredibly easy to use on android device. The application automatically detects your current location & displays it on screen. You can move around by holding your finger and dragging the screen and zoom in and out by pinching with your fingers.

The app allows you to ~~save~~ save maps offline and manage them from an easy-to-access list. The app also shows you the total walking time of your trip and when the next bus or train is. Turn-by-turn navigation shows you distance & estimated arrival time and gives you access to alternative routes and features lane assistance.

Maps also include a new Explore feature which shows you different places and activities around you. You can filter by distance, time of day and type of place and get business information. You can also search for places you've reviewed or saved using the 'Your Places' option.

~~fourth~~. Google maps layout file:

```
< Fragment
    android:id = "@+id/maps"
    android:layout_width = "match_parent"
    android:layout_height = "match_parent"
    />
```

Google map Android Manifest File:
We have to add the permission along with the google map API key in Android manifest

Permission:
1) ACCESS_FINE_LOCATION → Gps location

2) ACCESS_COARSE_LOCATION → permission for network provider location.

Syntax:
<user_permission android:name="android permission :permission_type"/>
<!---------Google API Key ------->
<meta data
android:name="package-path"
android:value="Google API Key" />

Customizing Google maps:
1) Adding marker → Done using addMarker() in Google map android manifest.
addmarker(Googlemap_Android manifest().position(0).
title("myloc"));

2) changing Map type →
Syntax → Googlemap.setMapType((Google map_MAPTYPE));

3) Enable / Disable Zoom →
googlemap.getUiSettings().setZoomGesturesEnabled(true);

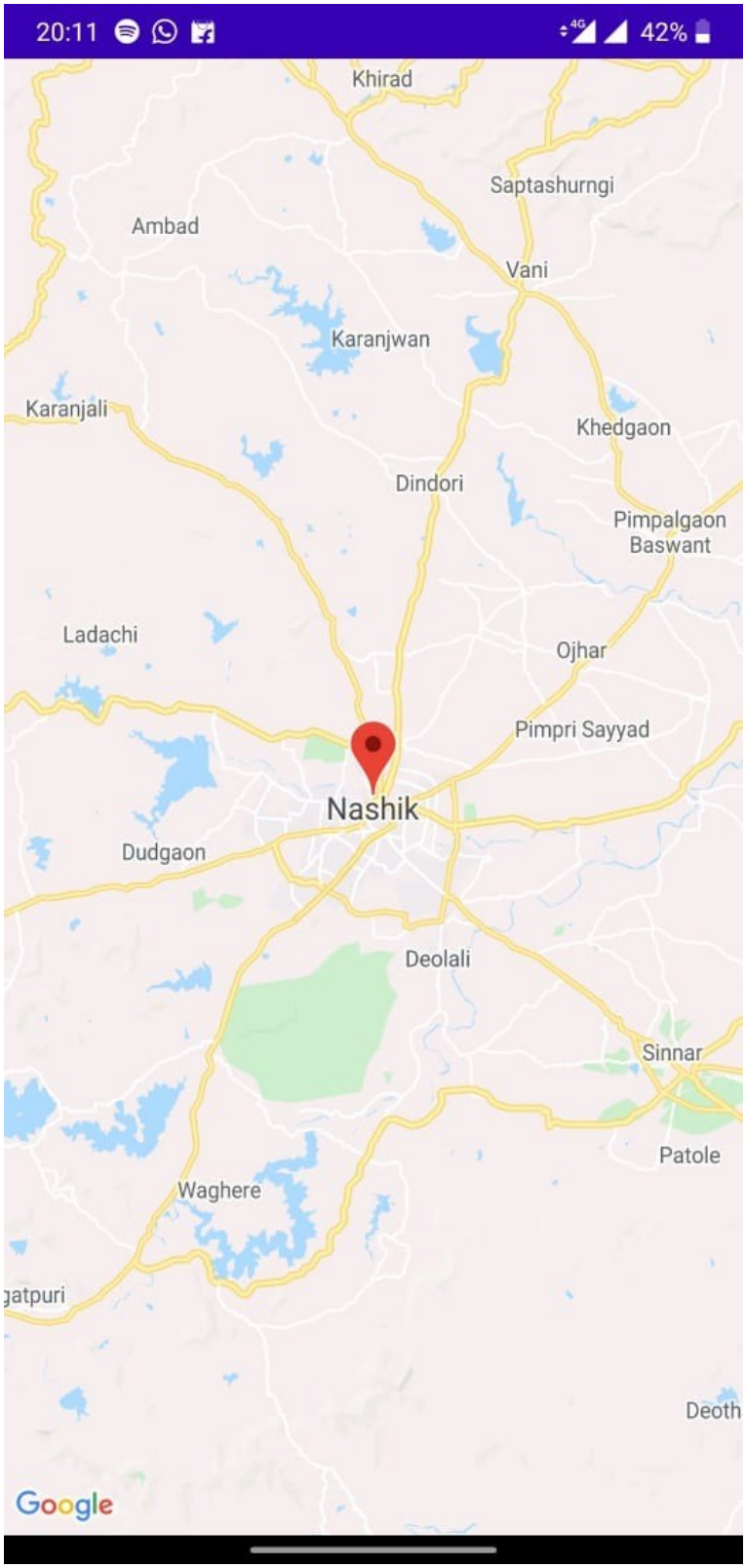
4) To get current location → getmylocation()

5) To zoom a particular Area → map.moveCamera (CameraUpdate, up);

- Result : All the test cases yielded the result 'PASS'

- Conclusion : Thus, after successfully completing this assignment, students should be able to understand and implement mobile app to trace location.

Outputs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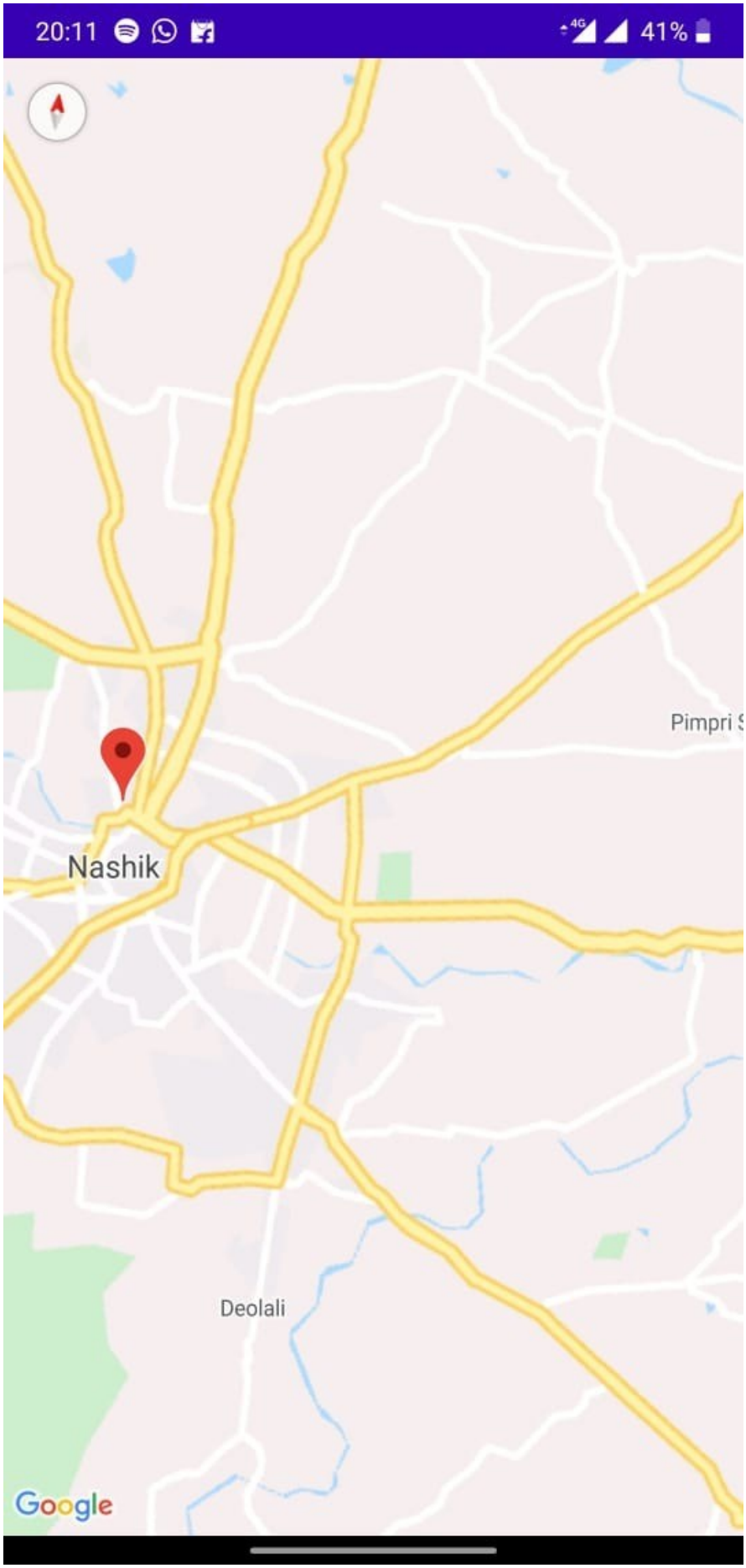
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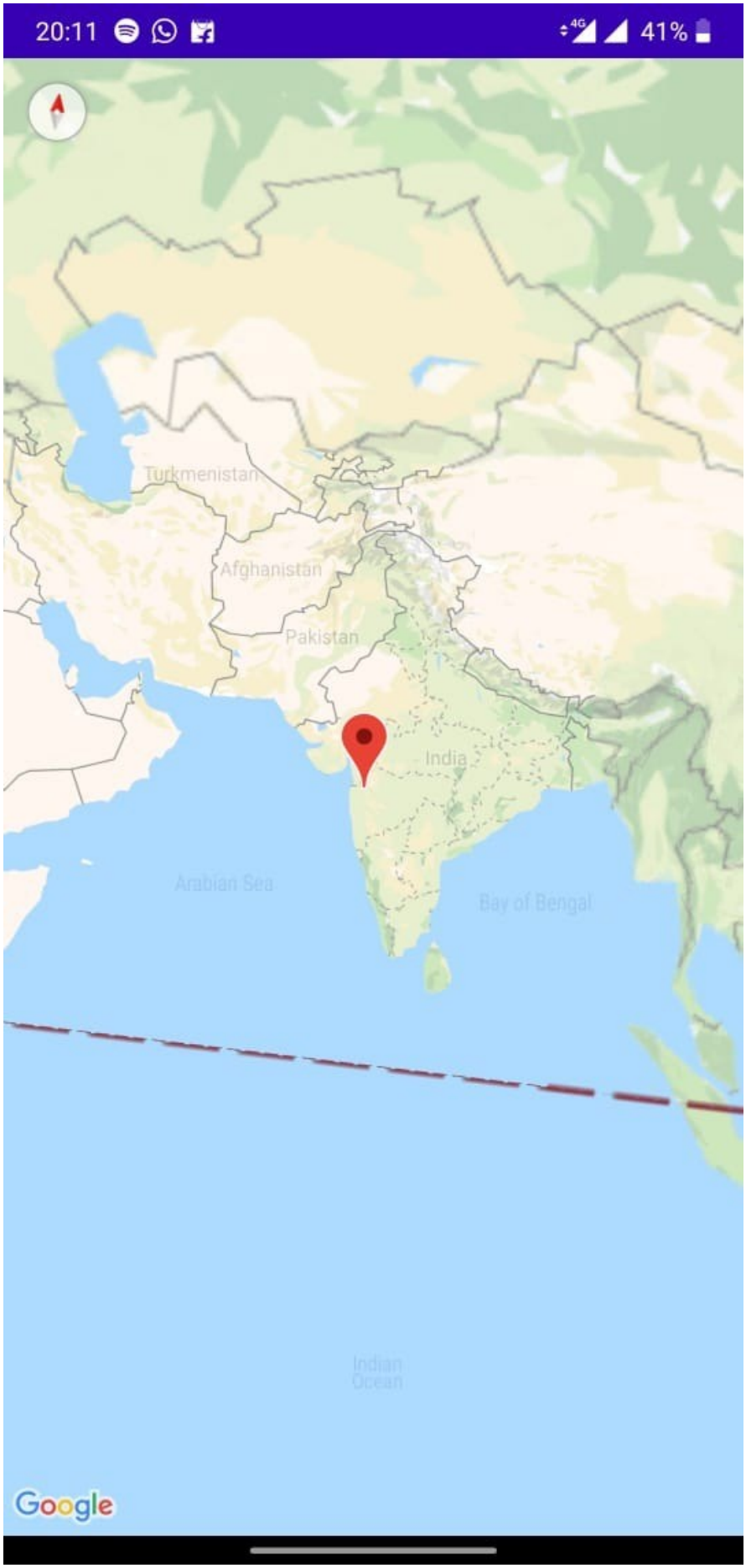
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Turkmenistan
Afghanistan
Pakistan
India
Arabian Sea
Bay of Bengal
Indian Ocean
Google