GOVERNMENT POLYTECHNIC JAMNAGAR

Affiliated

To

Gujarat Technological University, Ahmedabad

Laboratory Manual

D. E. Third Year (Semester– VI)

MOBILE COMPUTING AND APPLICATION DEVELOPMENT

(3360704)

GOVERNMENT POLYTECHNIC JAMNAGAR

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Branch : Computer

Batch : 6th SEM

GOVERNMENT POLYTECHNICJAMNAGAR

Computer Engineering Department

Certificate

This is to certify that

Mr. Rohan Parikh Enrolment No: 186250307058

Of 6th Semester Diploma course in Computer Engineering has satisfactorily completed his/her term work in Mobile Computing and Application Development (3360704) from _____ to _____ in Government Polytechnic, Jamnagar.

Date of Submission: _____

Staff in charge ***Head of Department***

_____ _____

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14	Create an application that will Demonstrate Button onClick() Event and change the TextView Color based on button Clicked				
15	Create an UI such that, one screen have list of all the types of cars. On selecting of any car name, next screen should show Car details like: name, launched date, company name				
16	Create an application that will Demonstrate Dialog Box Control In Android				

PRACTICAL 1

Installation and setup of java development kit (JDK), Setup Android Studio IDE, setup eclipse IDE, Installing Android SDK, create Android Virtual Device (AVD).

Step 1 - Setup Java Development Kit JDK

You can download the latest version of Java JDK from Oracle's Java site: Java SE Downloads. You will find instructions for installing JDK in downloaded files, follow the given instructions to install and configure the setup. Finally set PATH and JAVA_HOME environment variables to refer to the directory that contains **java** and **javac**, typically *java_install_dir/bin* and *java_install_dir* respectively.

If you are running Windows and installed the JDK in C:\ jdk1.8.0_111, you would have to put the following line in your C:\autoexec.bat file.

```
set PATH=C:\ jdk1.8.0_111 \bin;%PATH%
set JAVA_HOME=C:\ jdk1.8.0_111
```

Alternatively, you could also right-click on *My Computer*, select *Properties*, then *Advanced*, then *Environment Variables*. Then, you would update the *PATH* value and press the OK button.

On Linux, if the SDK is installed in /usr/local/ jdk1.8.0_111 and you use the C shell, you would put the following code into your ***.cshrc*** file.

```
setenv PATH /usr/local/ jdk1.8.0_111 /bin:$PATH
setenv JAVA_HOME /usr/local/ jdk1.8.0_111
```

Alternatively, if you use an Integrated Development Environment IDE Eclipse, then it will know automatically where you have installed your Java.

Step 2 - Setup Android Studio IDE

Check the system requirements for Android Studio/SDK @ https://developer.android.com/sdk/index.html#Requirements, e.g., Windows 7/8/10, recommended 8GB of RAM and 4GB of disk space.

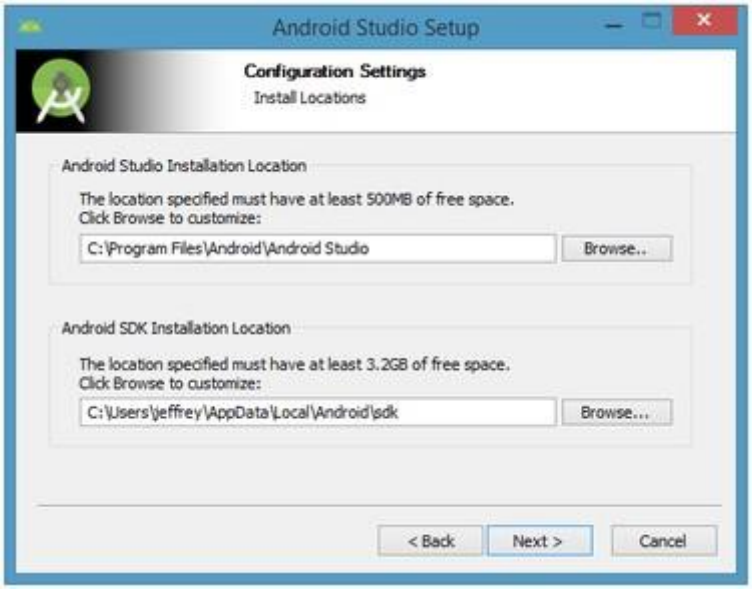
Goto "Android Developer" @ https://developer.android.com/index.html ⇒ Select "Get Android Studio" ⇒ "Download Android Studio 3.x.x for Windows (927 MB)", e.g., android-studio-ide-181.xxxxxxx-windows.exe.

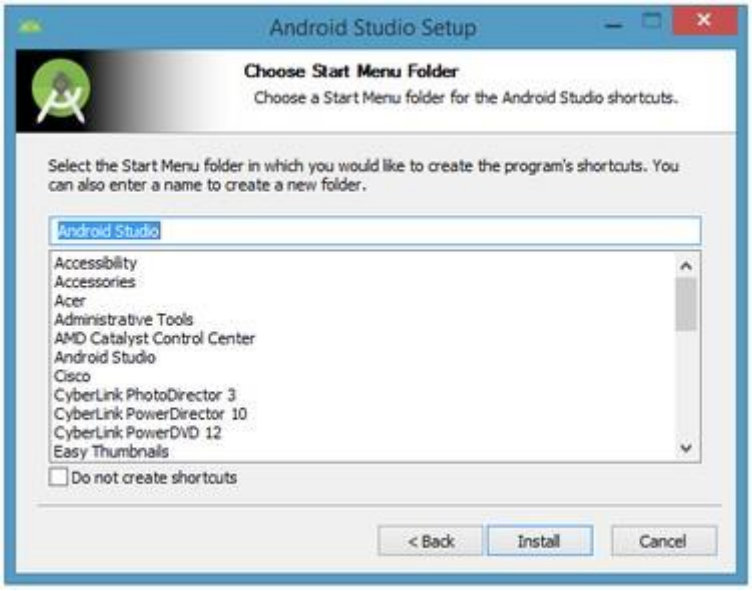
Run the downloaded installer ⇒ In "Choose Components", select "Android Studio" and "Android Virtual Device". ⇒ Follow the on-screen instruction and accept the defaults to complete the installation. You need about 3-4GB of free disk space! Take note (and take photo) on the installation locations of "Android Studio" (by default @ "*C:\Program Files\Android\Android Studio*") and the "Android SDK" (by default @ *C:\Users\username\AppData\Local\Android\Sdk*).


Android Studio Setup
Welcome to Android Studio Setup
Setup will guide you through the installation of Android Studio.
It is recommended that you close all other applications before starting Setup. This will make it possible to update relevant system files without having to reboot your computer.
Click Next to continue.
Android Studio
< Back
Next >
Cancel


Android Studio Setup
Choose Components
Choose which features of Android Studio you want to install.
Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.
Select components to install:
Android Studio
Android SDK
Android Virtual Device
Description
Position your mouse over a component to see its description.
Space required: 4.2GB
< Back
Next >
Cancel


Android Studio Setup
License Agreement
Please review the license terms before installing Android Studio.
Press Page Down to see the rest of the agreement.
To get started with the Android SDK, you must agree to the following terms and conditions.
This is the Android SDK License Agreement (the "License Agreement").
1. Introduction
1.1 The Android SDK (referred to in the License Agreement as the "SDK" and specifically including the Android system files, packaged APIs, and SDK library files and tools , if and when they are made available) is licensed to you subject to the terms of the License Agreement. The License Agreement forms a legally binding contract between you and
If you accept the terms of the agreement, click I Agree to continue. You must accept the agreement to install Android Studio.
< Back
I Agree
Cancel

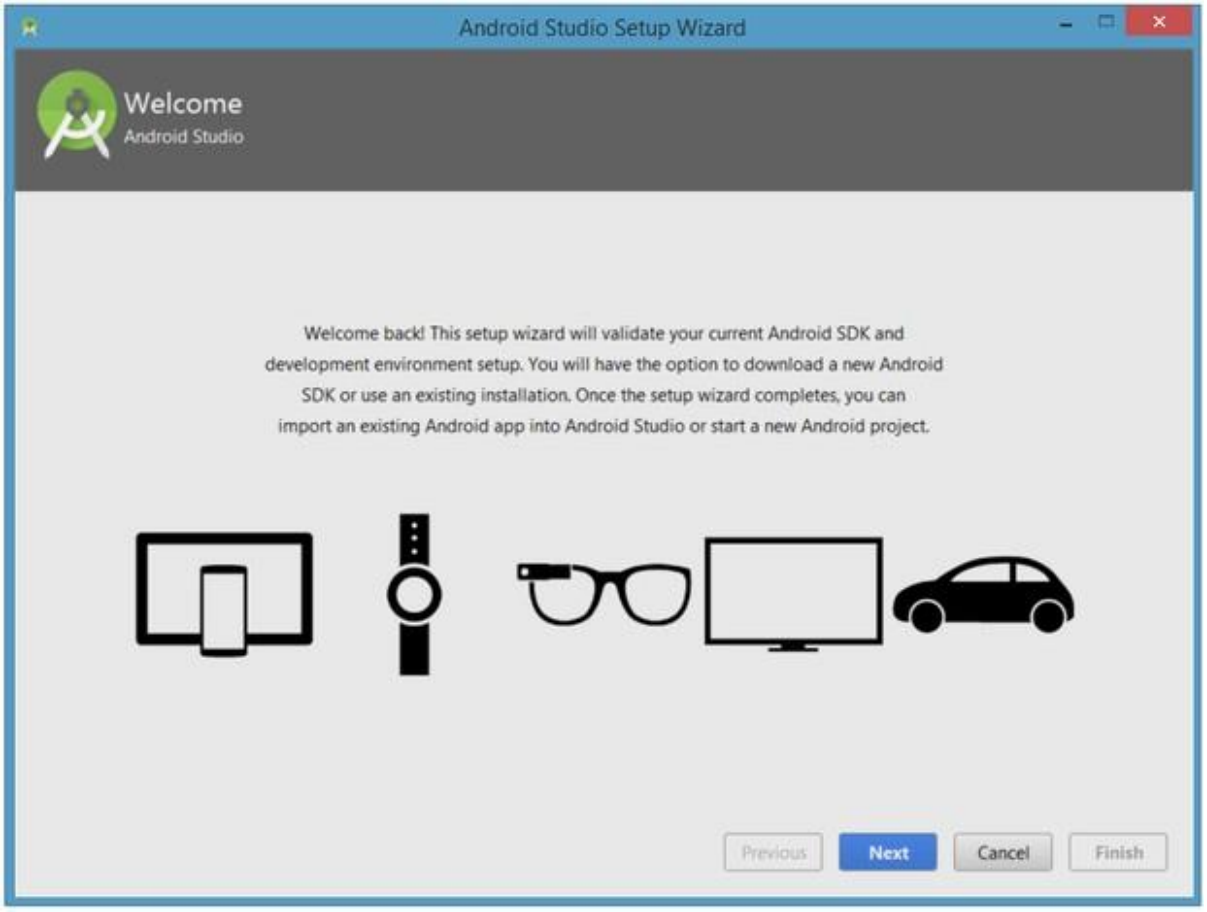

Android Studio Setup
Configuration Settings
Install Locations
Android Studio Installation Location
The location specified must have at least 500MB of free space.
Click Browse to customize:
C:\Program Files\Android\Android Studio
Browse...
Android SDK Installation Location
The location specified must have at least 3.2GB of free space.
Click Browse to customize:
C:\Users\jeffrey\AppData\Local\Android\sdk
Browse...
< Back
Next >
Cancel

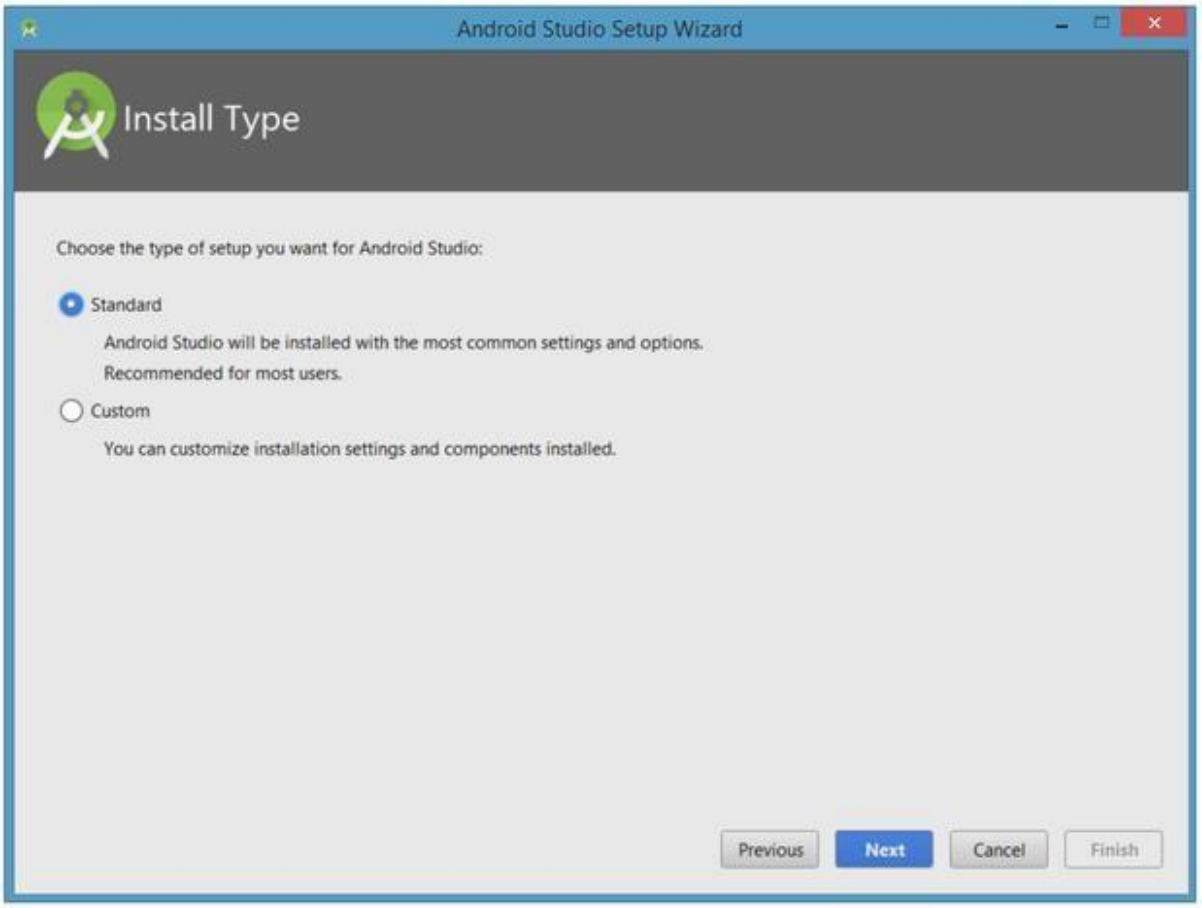

Android Studio Setup
Choose Start Menu Folder
Choose a Start Menu folder for the Android Studio shortcuts.
Select the Start Menu folder in which you would like to create the program's shortcuts. You can also enter a name to create a new folder.
Android Studio
Accessibility
Accessories
Acer
Administrative Tools
AMD Catalyst Control Center
Android Studio
Cisco
CyberLink PhotoDirector 3
CyberLink PowerDirector 10
CyberLink PowerDVD 12
Easy Thumbnails
Do not create shortcuts
< Back
Install
Cancel

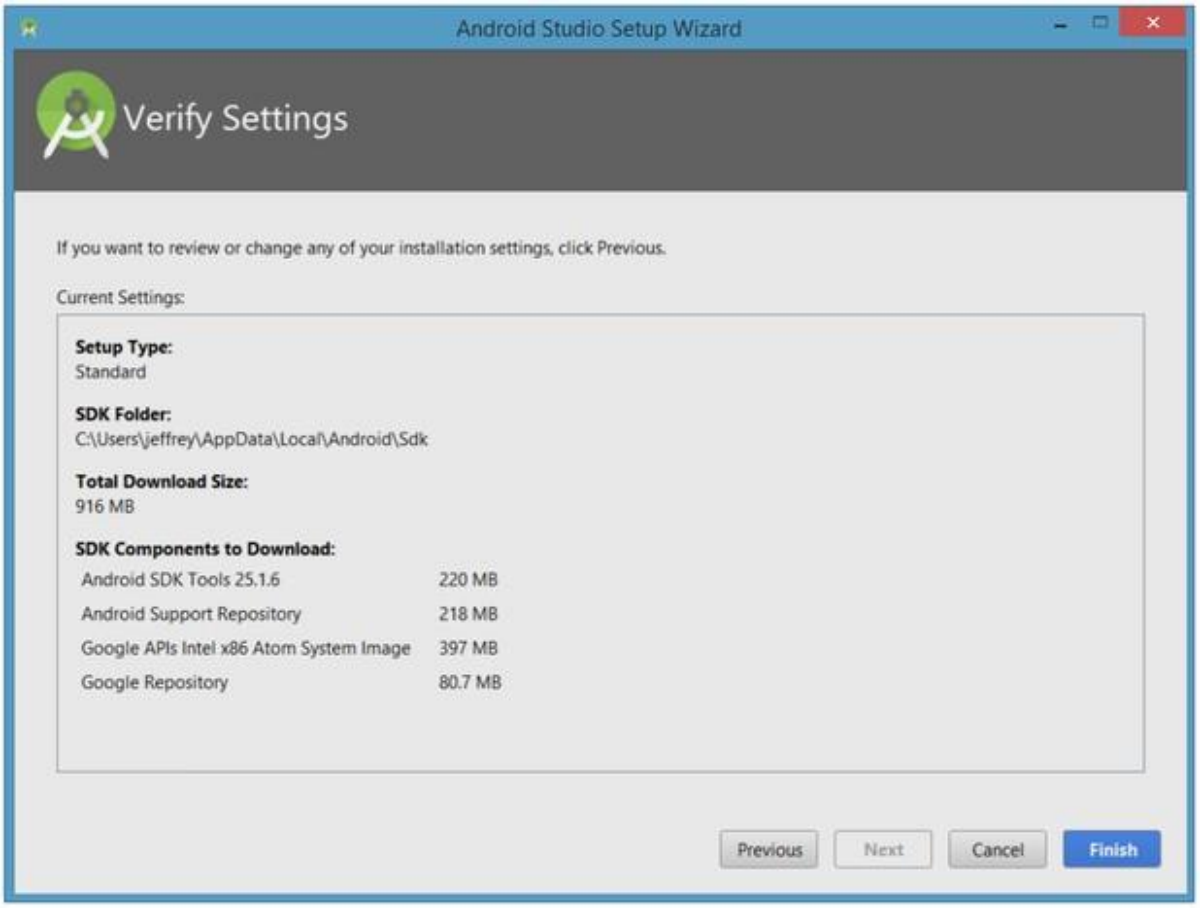

Android Studio Setup
Android
Studio
Completing Android Studio Setup
Android Studio has been installed on your computer.
Click Finish to close Setup.
Start Android Studio
< Back
Finish
Cancel

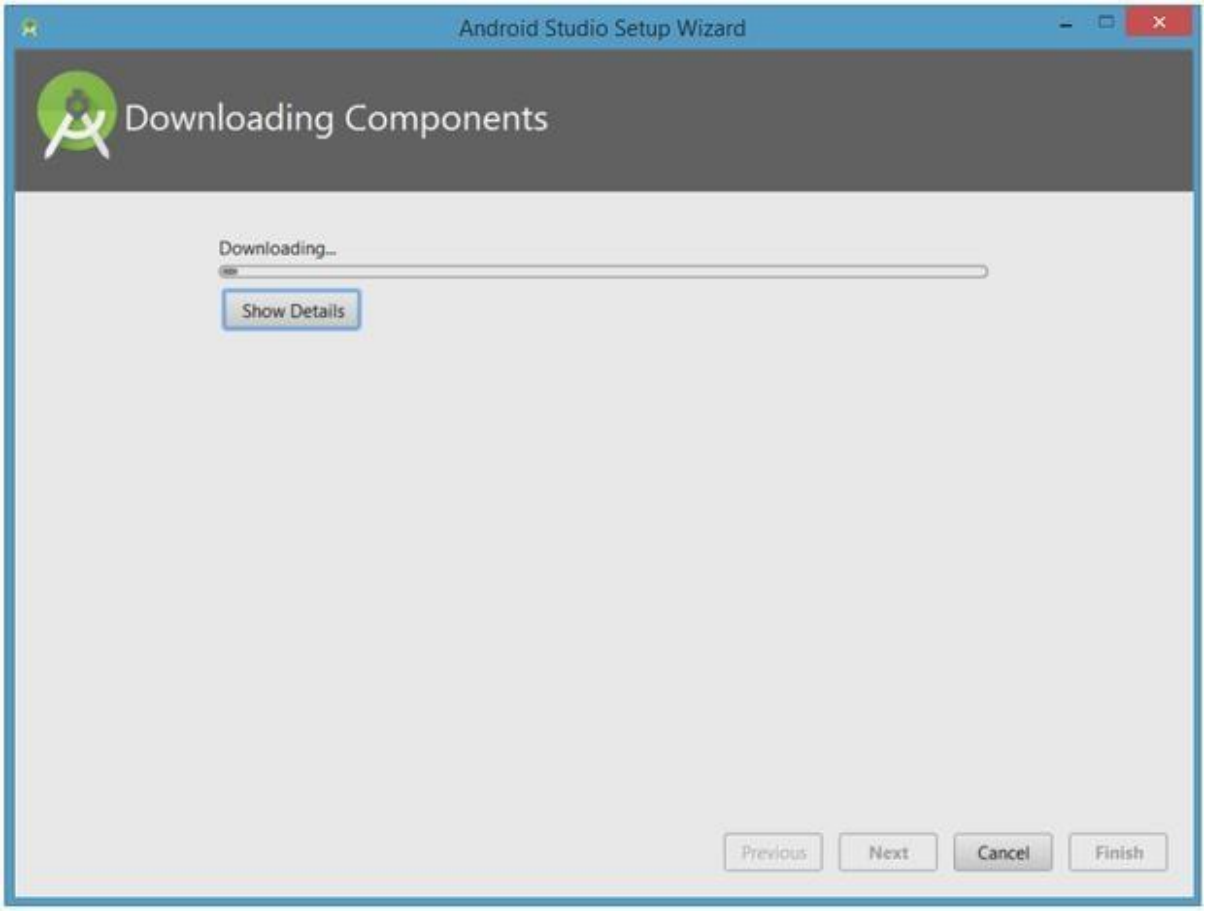
Step 3 – Installing Android SDK

Launch Android Studio ⇒ It will run the "setup" wizard for the first launch ⇒ do not import previous settings ⇒ In "Installation Type", choose "Standard" ⇒ Check the SDK folder, by default @ c:\Users\username\AppData\Local\Android\Sdk ⇒ Finish.
This step will download another 1GB of SDK package and take times to complete.
Note: In Windows, "AppData" is a hidden directory. You need to choose "View" ⇒ Check "Show Hidden Items" to see this directory.




Android Studio Setup Wizard
Install Type
Choose the type of setup you want for Android Studio:
Standard
Android Studio will be installed with the most common settings and options.
Recommended for most users.
Custom
You can customize installation settings and components installed.
Previous
Next
Cancel
Finish


Android Studio Setup Wizard
Verify Settings
If you want to review or change any of your installation settings, click Previous.
Current Settings:
Setup Type:
Standard
SDK Folder:
C:\Users\jeffrey\AppData\Local\Android\Sdk
Total Download Size:
916 MB
SDK Components to Download:
Android SDK Tools 25.1.6 220 MB
Android Support Repository 218 MB
Google APIs Intel x86 Atom System Image 397 MB
Google Repository 80.7 MB
Previous
Next
Cancel
Finish


Android Studio Setup Wizard
Downloading Components
Downloading...
Show Details
Previous
Next
Cancel
Finish


Welcome to Android Studio
Android Studio
Version 2.1.1
Start a new Android Studio project
Open an existing Android Studio project
Check out project from Version Control
Import project (Eclipse ADT, Gradle, etc.)
Import an Android code sample
Configure
Get Help

(Optional) You can check the SDK packages installed by selecting "Configure" ⇒ "SDK Manager":

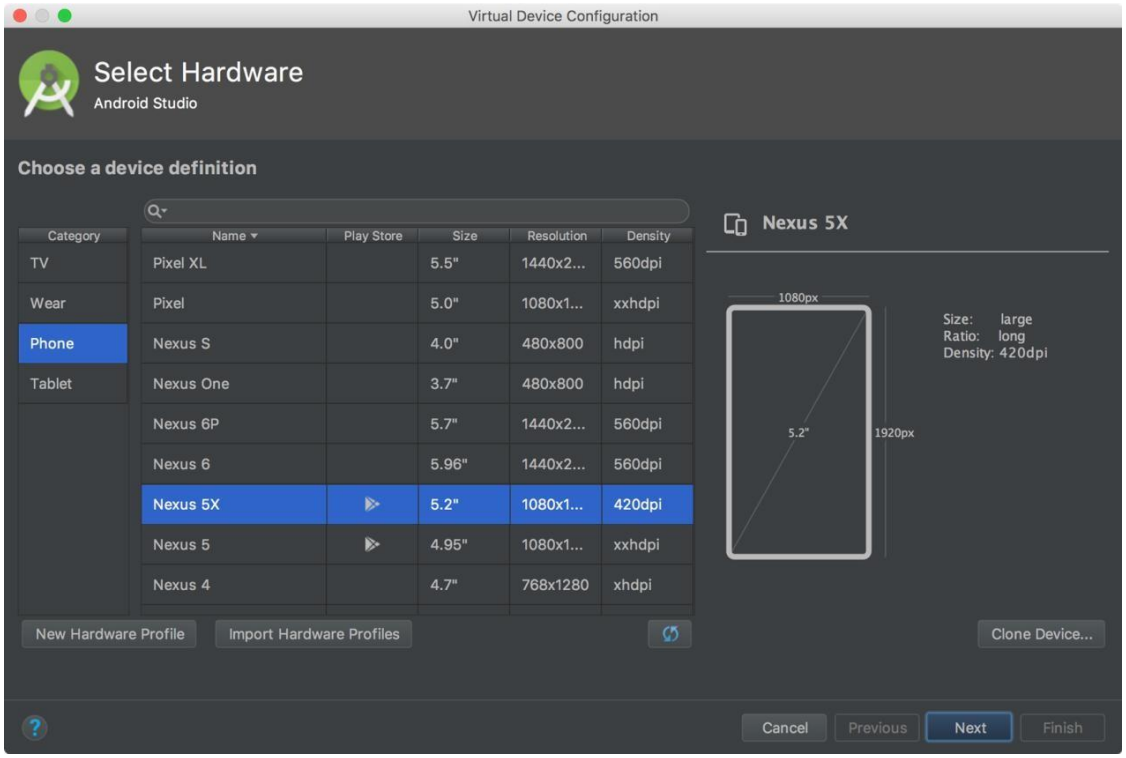
Under "SDK Platforms":
Android API 27
Under "SDK Tools":
Android SDK Build Tools
Android Emulator 27.x.x
Android SDK Platform-Tools 27.x.x
Android SDK Tools 26.x.x
Intel x86 Emulator Accelerator (HAXM installer)
Android Support Repository
Google Repository

Step 4 - Create Android Virtual Device

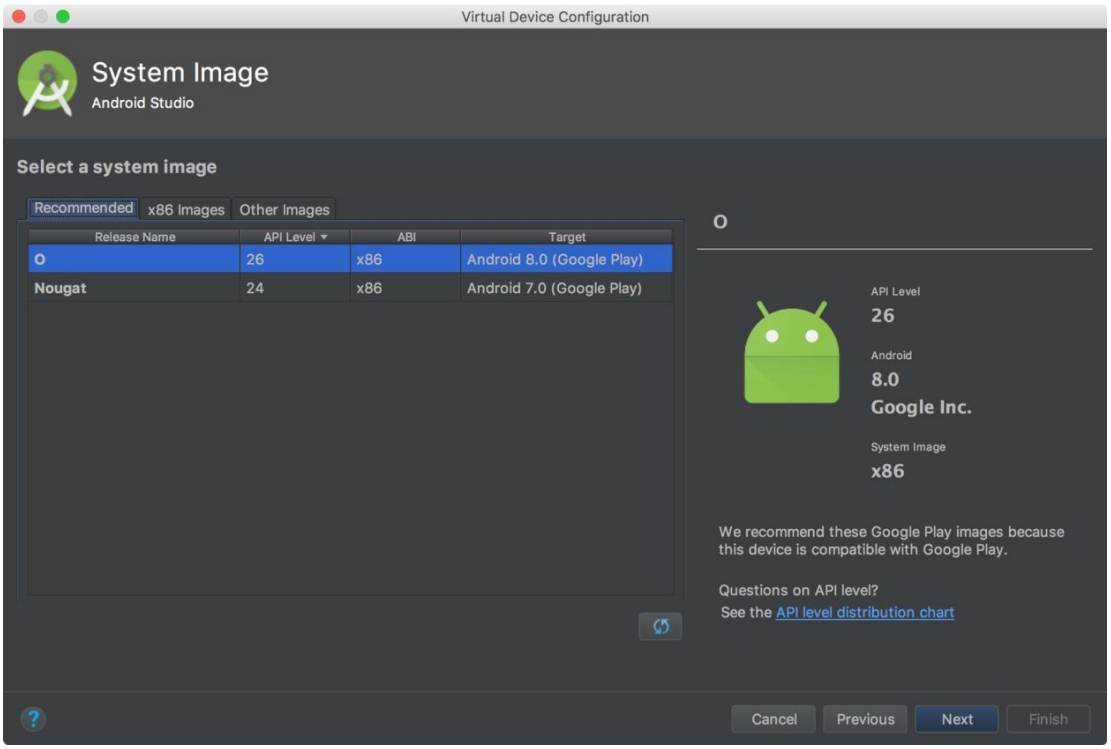
To run your Android app under the emulator, you need to first create an Android Virtual Devices (AVD). An AVD models a specific device (e.g., your Phone or Tablet). You can create AVDs to emulate different android devices (e.g., phone/tablet, android version, screen size, and etc.).

1. In Android studio, select "Tools" ⇒ Android ⇒ AVD Manager. See "Common Errors" below if you cannot find "AVD manager".

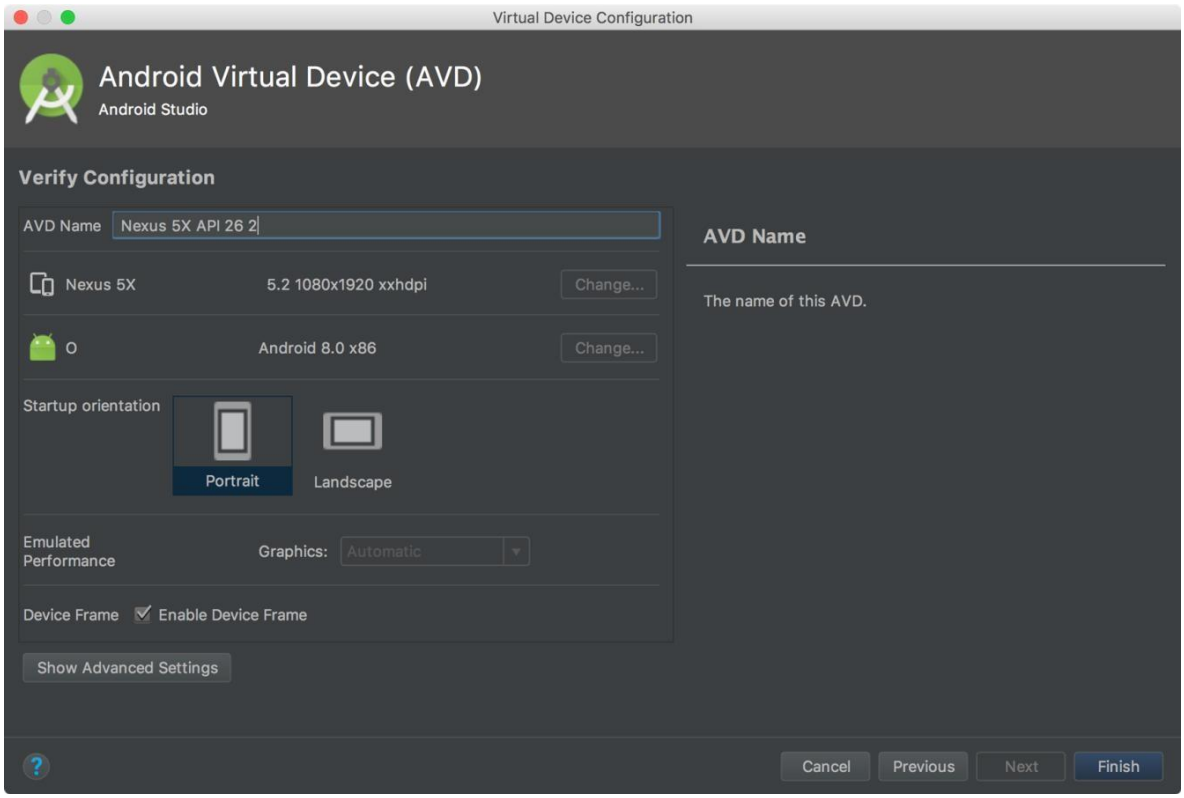
2. Click "Create Virtual Device".



3. In "Select Hardware: Choose a device definition" dialog ⇒ In "Category", choose "Phone" ⇒ In "Name", choose "2.7 QVGA" (the smallest device available - you can try a bigger device later) ⇒ Next.
4. In "System Image: Recommended" ⇒ Select the version with the highest API level ⇒ Click "Download" ⇒ Next.



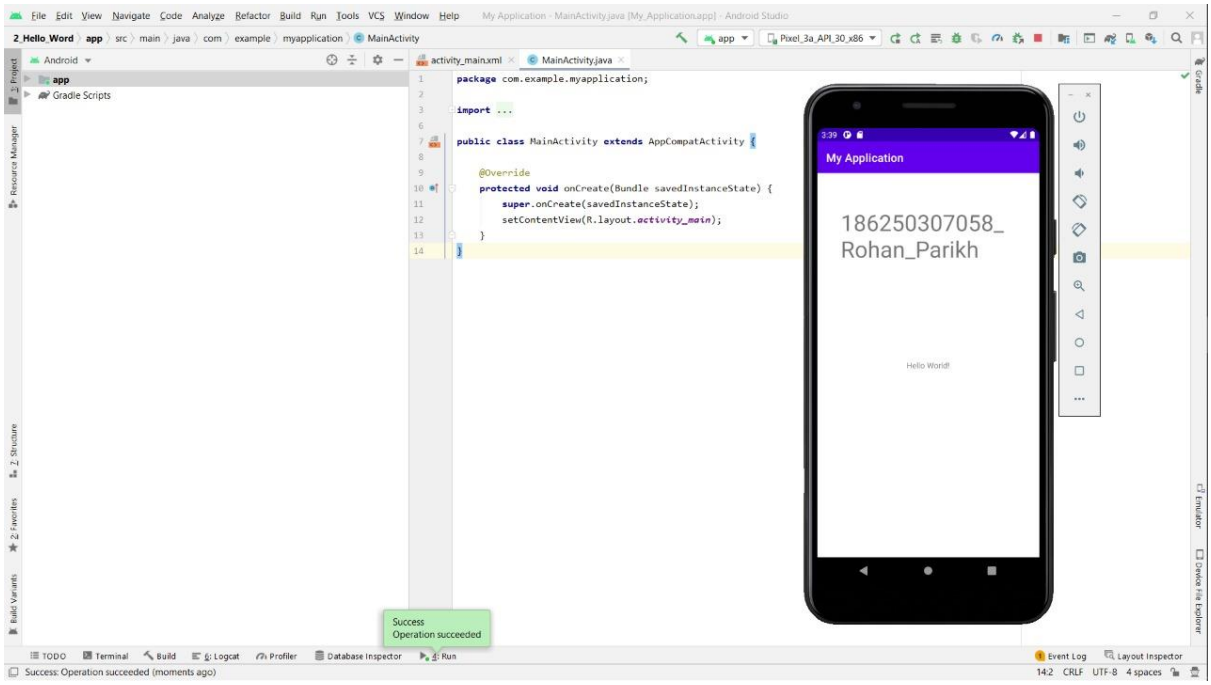
5. In "AVD Name", enter "2.7 QVGA API 27" (default) ⇒ Finish.



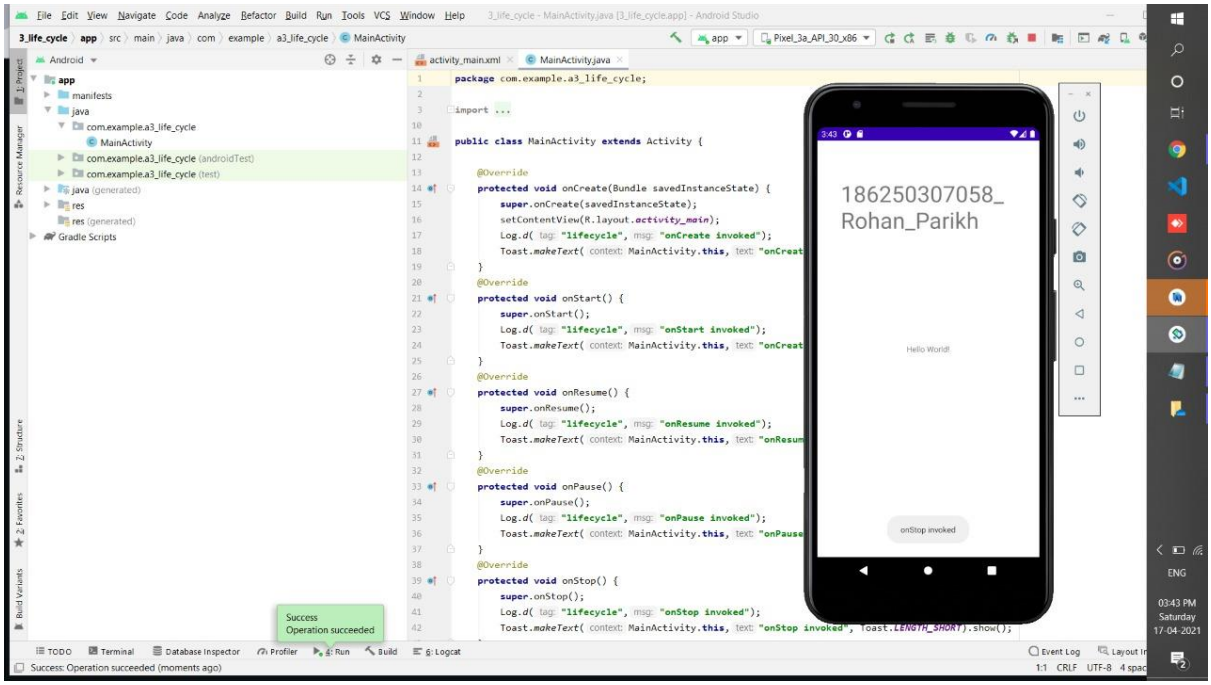
6. If you see "VT-x is disabled in BIOS": Check your BIOS setting to ensure that "Virtualization Technology" is enabled. Shutdown and re-boot your PC to enter theBIOS setup. This is machine dependent. Google "Your-PC-brand-and-model enter BIOS setup". For example, for my HP computer ⇒ Boot ⇒ "ESC" to enter BIOS setup ⇒ Advanced ⇒ System Options ⇒ Check "Virtualization Technology (VTx)"
⇒ Save ⇒ Exit.

186250307058 | Rohan Parikh

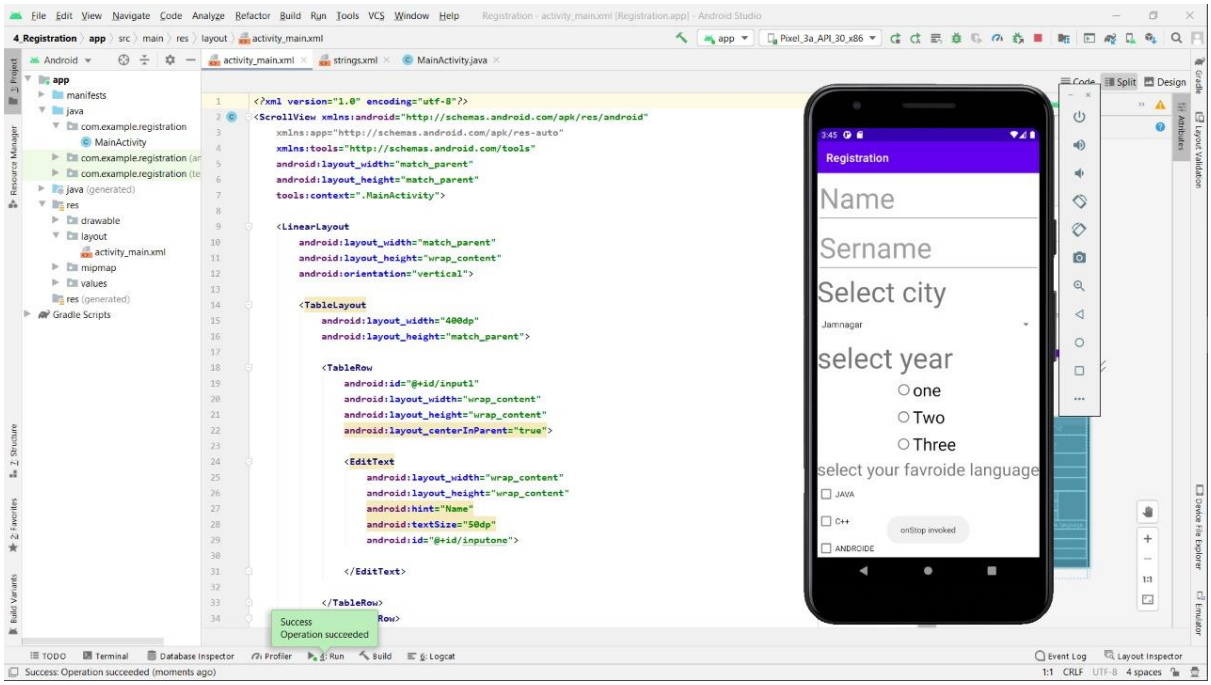
2)



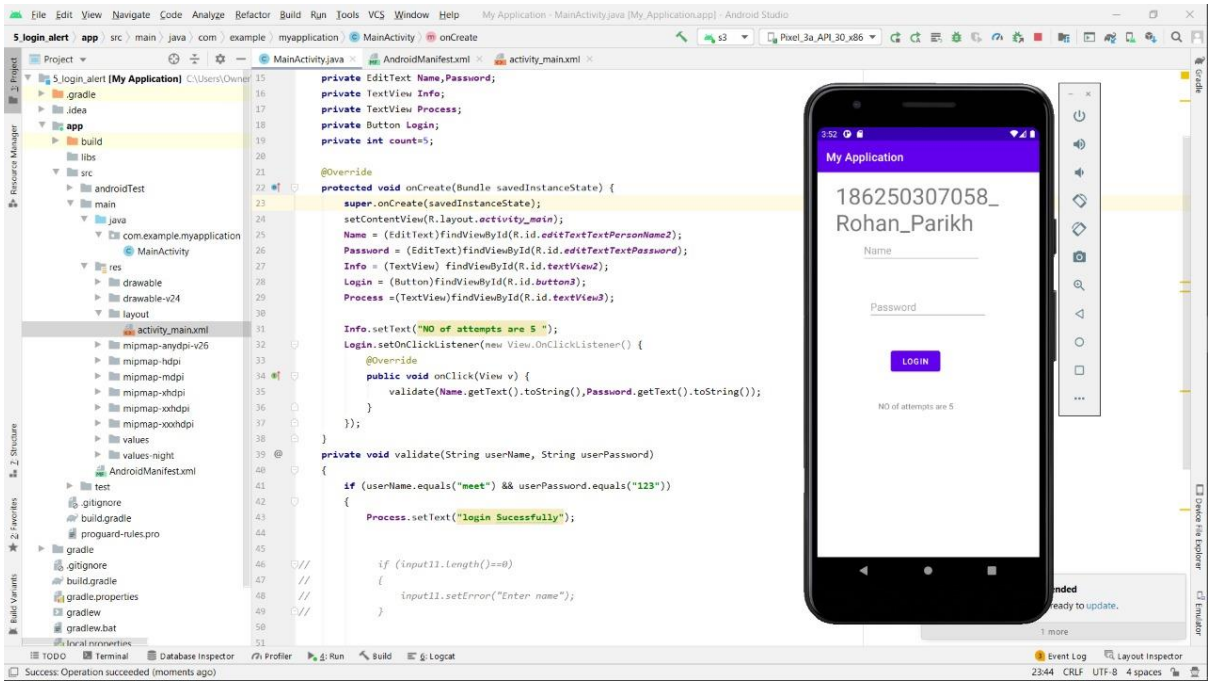
3)



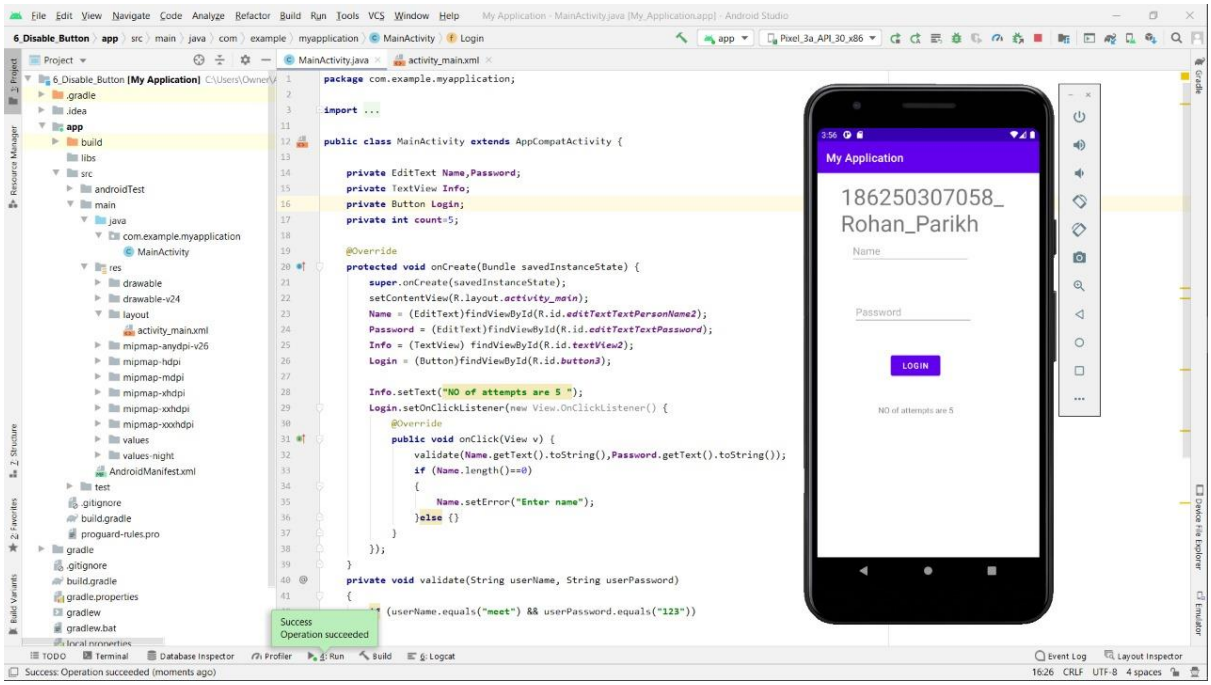
4)


Registration
Name
Sername
Select city
Jamnagar
select year
one
Two
Three
select your favroide language
JAVA
C++
ANDROIDE
onStop invoked
Success
Operation succeeded

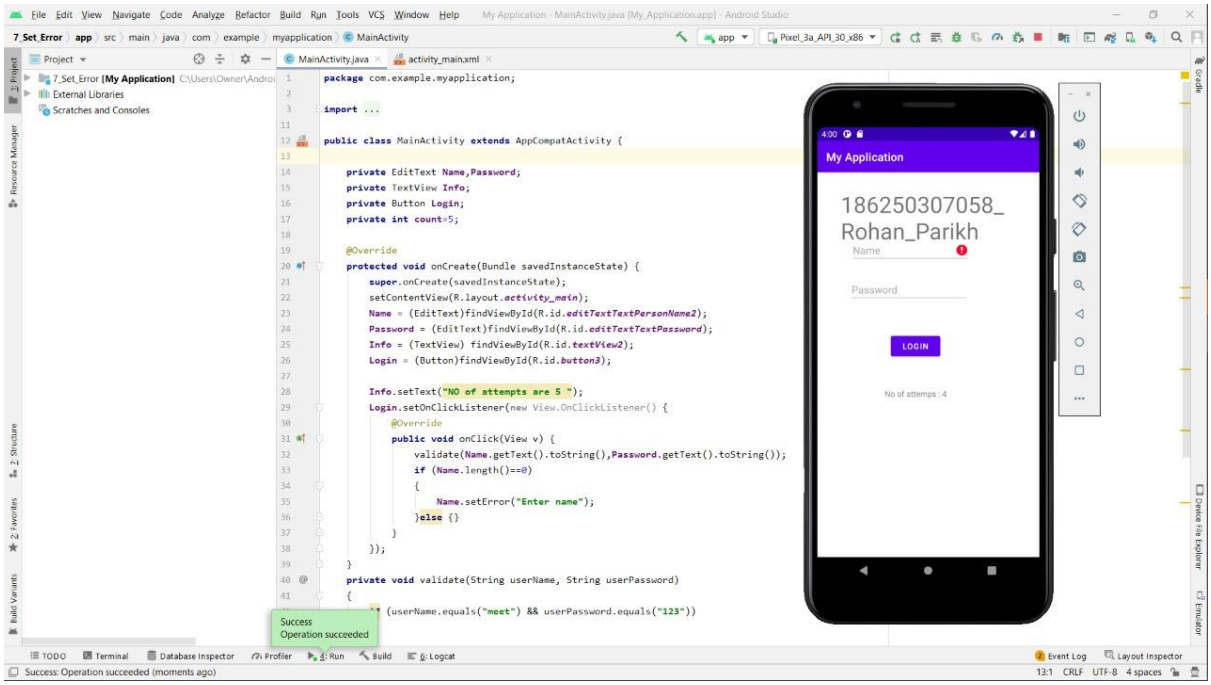
5)


My Application
186250307058_
Rohan_Parikh
Name
Password
LOGIN
NO of attempts are 5

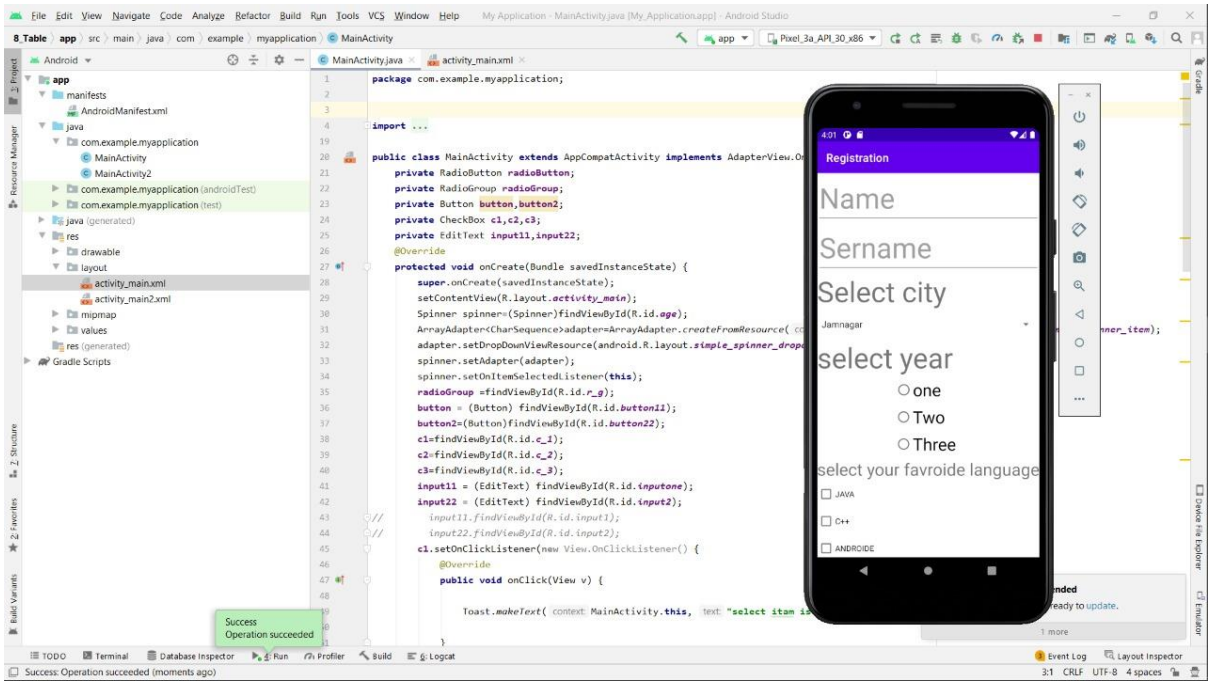
6)


My Application
186250307058_
Rohan_Parikh
Name
Password
LOGIN
NO of attempts are 5
Success
Operation succeeded

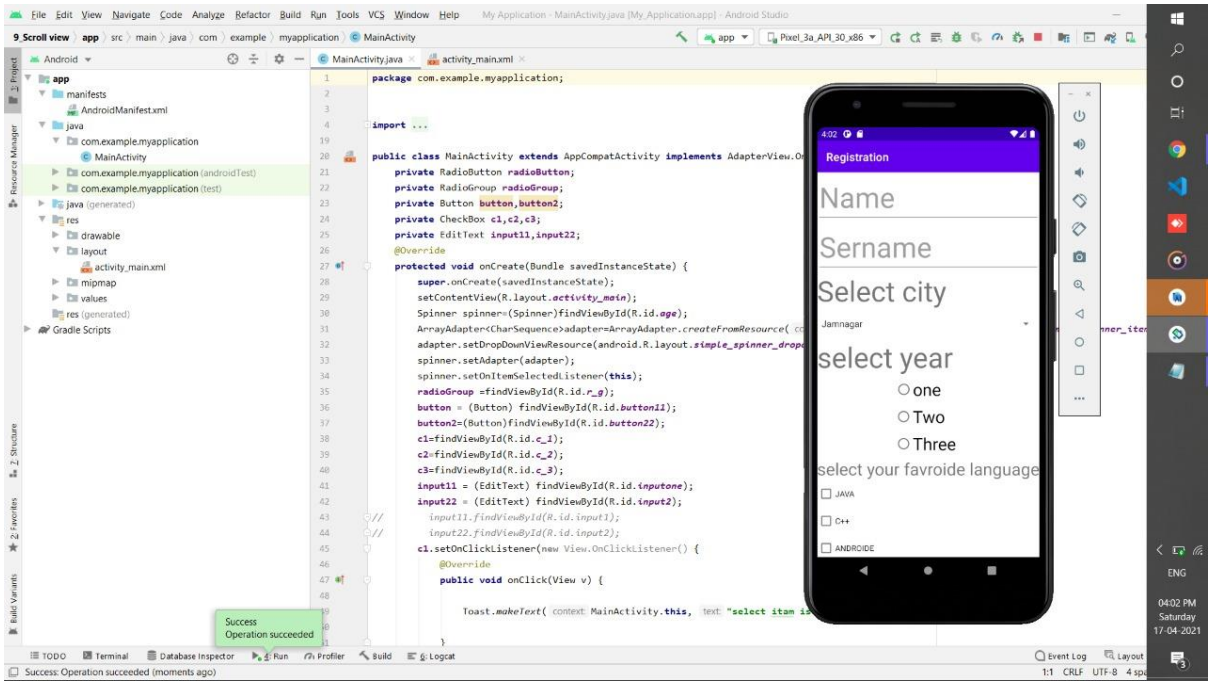
7)


My Application
186250307058_
Rohan_Parikh
Name
Password
LOGIN
No of attemps : 4
Success
Operation succeeded

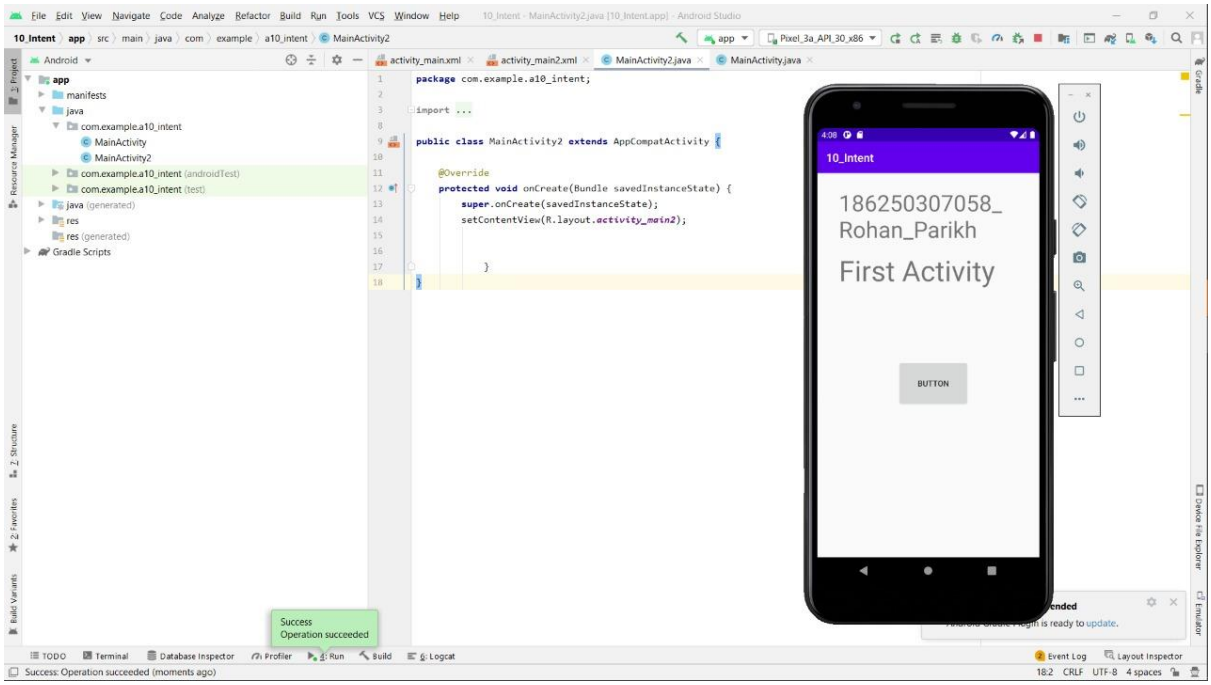
8)


Registration
Name
Sername
Select city
Jamnagar
select year
one
Two
Three
select your favroide language
JAVA
C++
ANDROIDE
Success
Operation succeeded

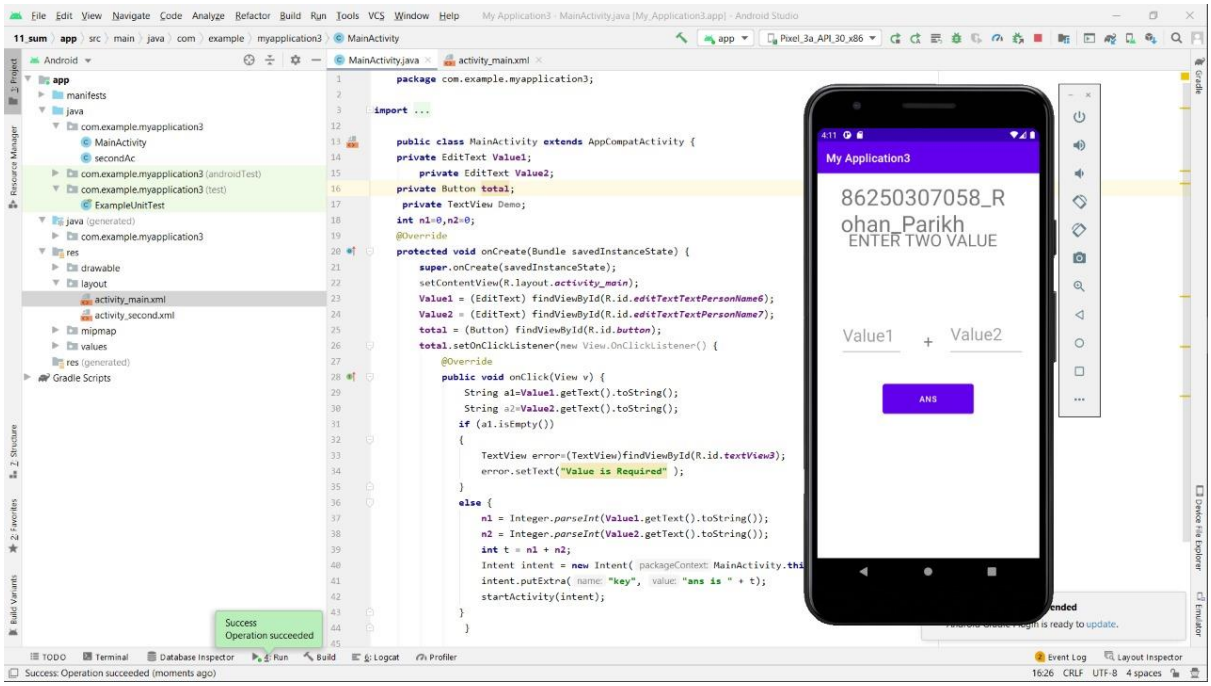
9)


Registration
Name
Sername
Select city
Jamnagar
select year
one
Two
Three
select your favroide language
JAVA
C++
ANDROIDE
Success
Operation succeeded

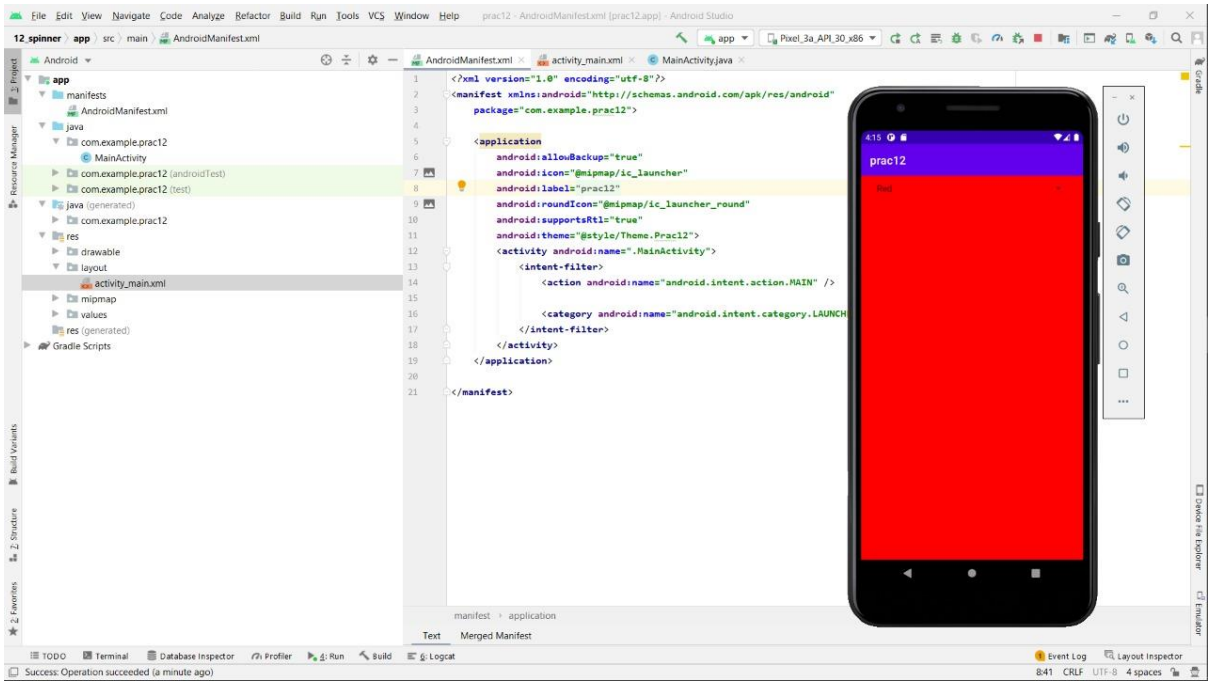
10)


10_Intent
186250307058_
Rohan_Parikh
First Activity
BUTTON
Success
Operation succeeded

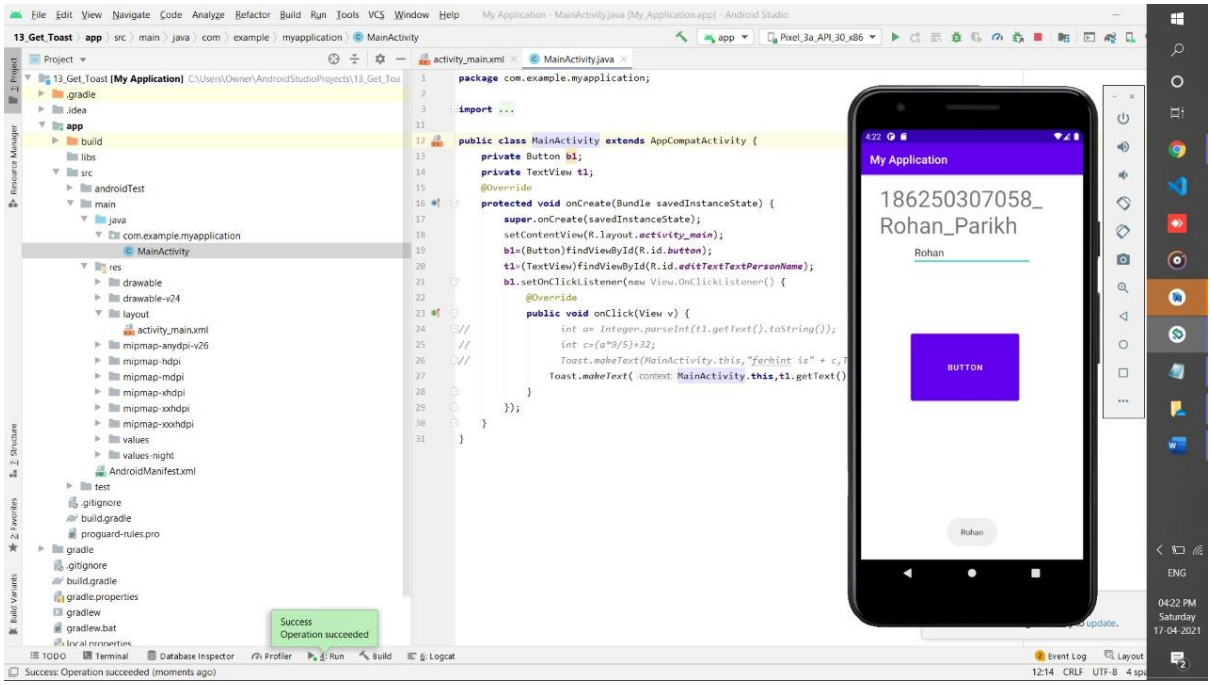
11)


My Application3
86250307058_R
ohan_Parikh
ENTER TWO VALUE
Value1
+
Value2
ANS
Success
Operation succeeded

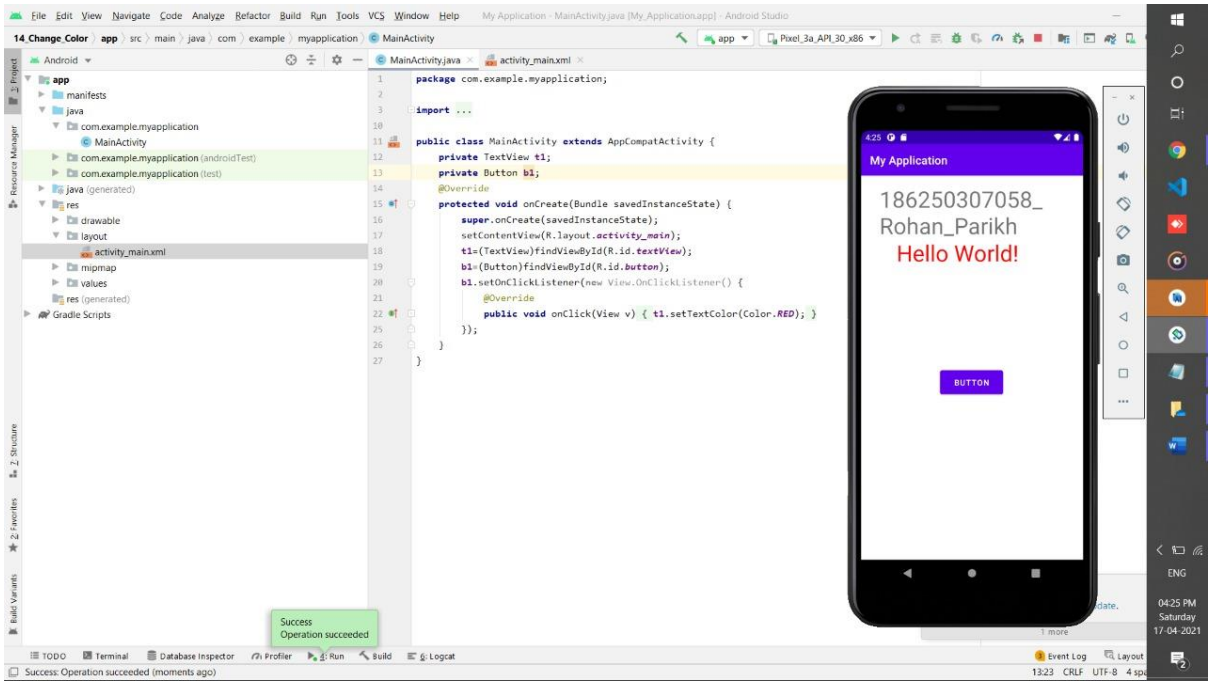
12)


prac12
AndroidManifest.xml
activity_main.xml
MainActivity.java
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
package="com.example.prac12">
<application
android:allowBackup="true"
android:icon="@mipmap/ic_launcher"
android:label="prac12"
android:roundIcon="@mipmap/ic_launcher_round"
android:supportsRtl="true"
android:theme="@style/Theme.Prac12">
<activity android:name=".MainActivity">
<intent-filter>
<action android:name="android.intent.action.MAIN" />
<category android:name="android.intent.category.LAUNCH
</intent-filter>
</activity>
</application>
</manifest>
Text
Merged Manifest

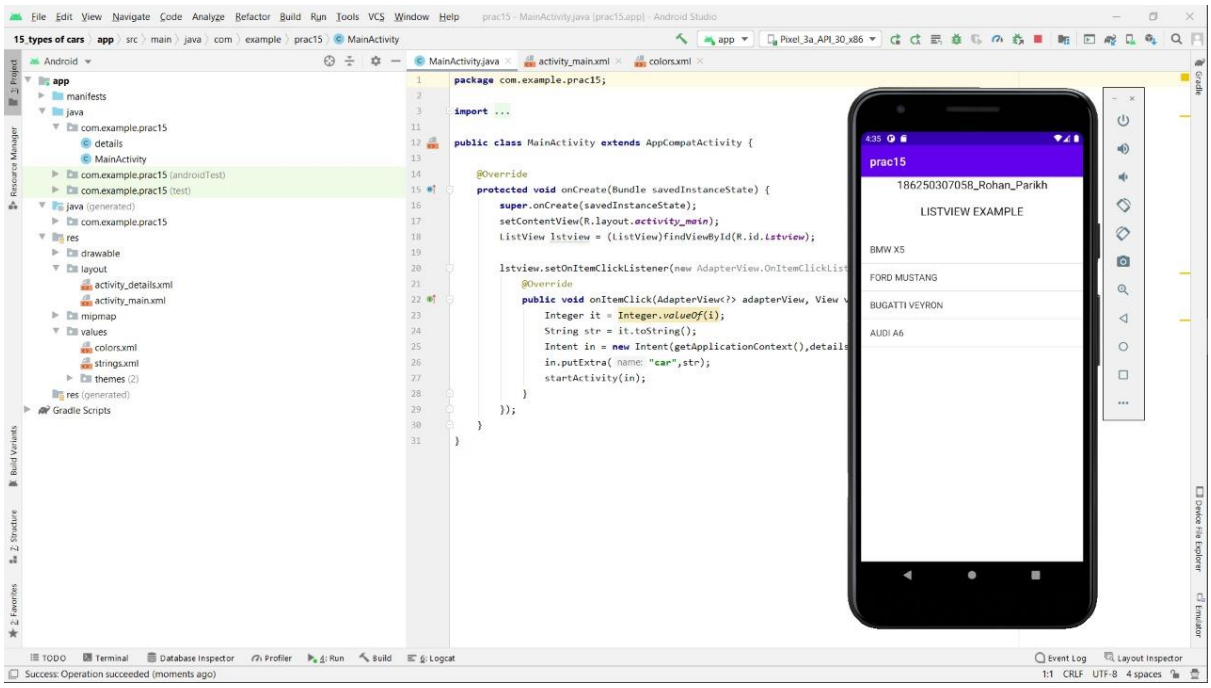
13)


My Application
package com.example.myapplication;
import ...
public class MainActivity extends AppCompatActivity {
private Button b1;
private TextView t1;
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
b1=(Button)findViewById(R.id.button);
t1=(TextView)findViewById(R.id.editTextTextPersonName);
b1.setOnClickListener(new View.OnClickListener() {
@Override
public void onClick(View v) {
Toast.makeText(context: MainActivity.this,t1.getText()
}
});
}
}
My Application
186250307058_
Rohan_Parikh
Rohan
BUTTON
Rohan
Success
Operation succeeded

14)


My Application
186250307058_
Rohan_Parikh
Hello World!
BUTTON
Success
Operation succeeded

15)


prac15
186250307058_Rohan_Parikh
LISTVIEW EXAMPLE
BMW X5
FORD MUSTANG
BUGATTI VEYRON
AUDI A6

16)