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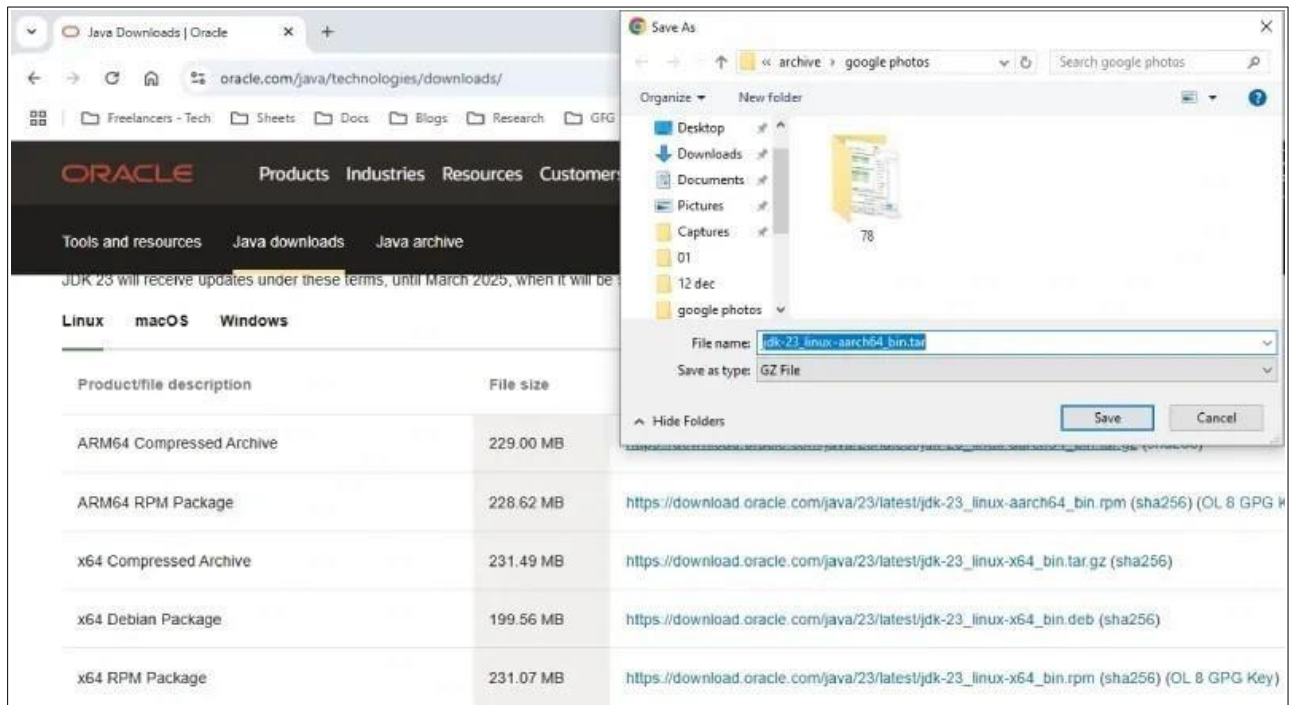
SR.NO	Title	Remark	Sign
1.	Installation and setup of java development kit (JDK), setup android SDK, setup eclipse IDE, setup android development tools (ADT) plugins, create android virtual device.		
2.	Create “Hello World” application. That will display “Hello World” in the middle of the screen using Text View Widget in the red color.		
3.	Create Registration page to demonstration of basic widgets available in android.		
4.	Create sample application with login module. (Check username and password) On successful login, Change TextView “Login Successful”. And on failing login alter user Toast “Login fail”.		
5.	Create an application for demonstration of Scroll View in android.		
6.	Create login application where you will have to validate username and passwords till the username and password is not validated, login button should remain disabled.		
7.	Create an application for calculator.		
8.	Demonstrate use of Scroll view.		
9.	Demonstrate use of intent in android.		
10.	Create application to demonstrate menu option.		
11.	Create application to demonstrate progress bar.		

Practical no:1

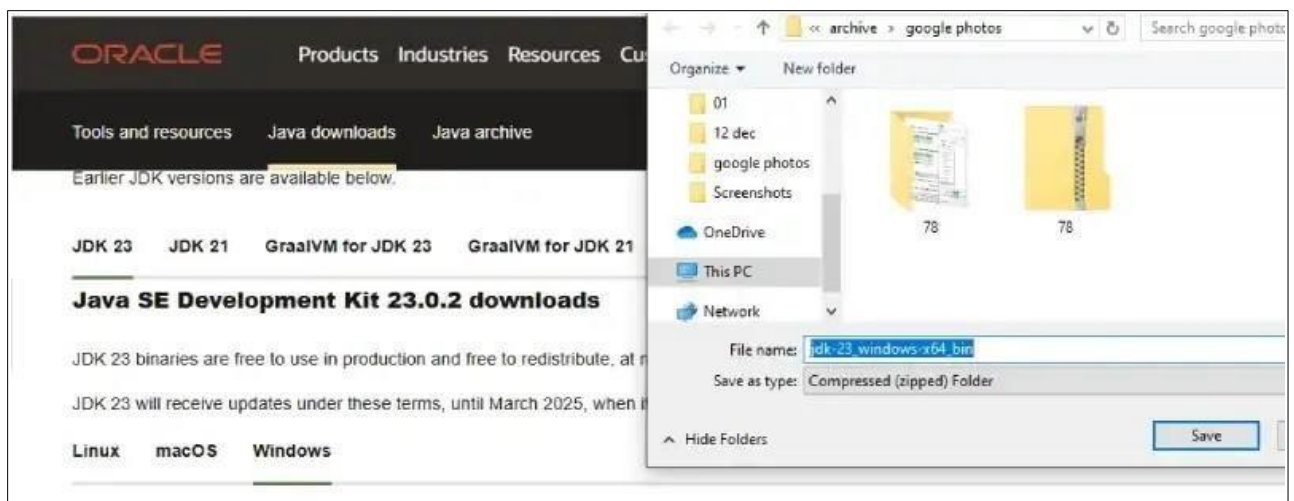
Practical name:- Installation and setup (JDK),setup android(SDK),Create android virtual device.

A] JDK installation and setup:

Step 1: Visit the Official Website: Go to the **Official JDK website** to download the file.

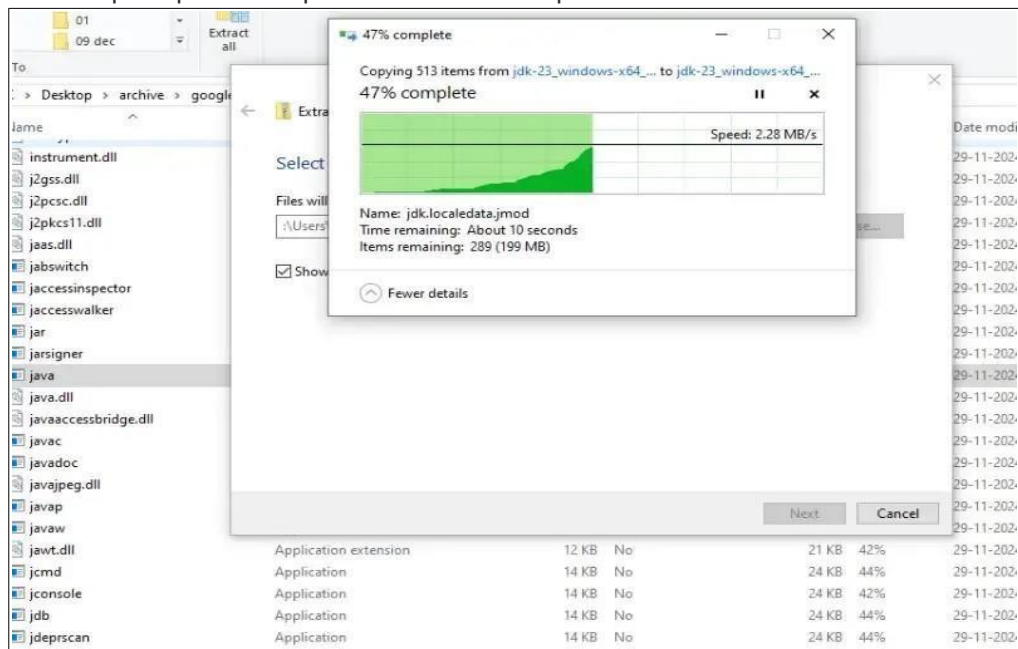


Step 2: Select the Appropriate Version: As of 2025, the latest stable versions are **JDK 23 (SE)** and **JDK 21 (LTS)**. Select the compatible version as per your operating system (Windows, Mac or Linux):

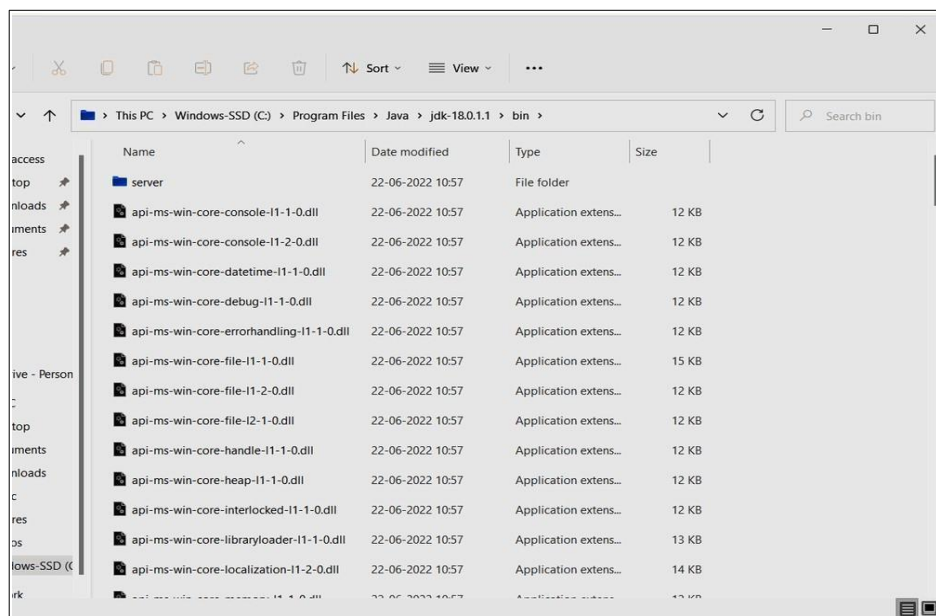


Step 3: License & Agreement: Go through all the License and Agreement before downloading (from Oracle website), it will not ask if you'll download it from OpenJDK website.

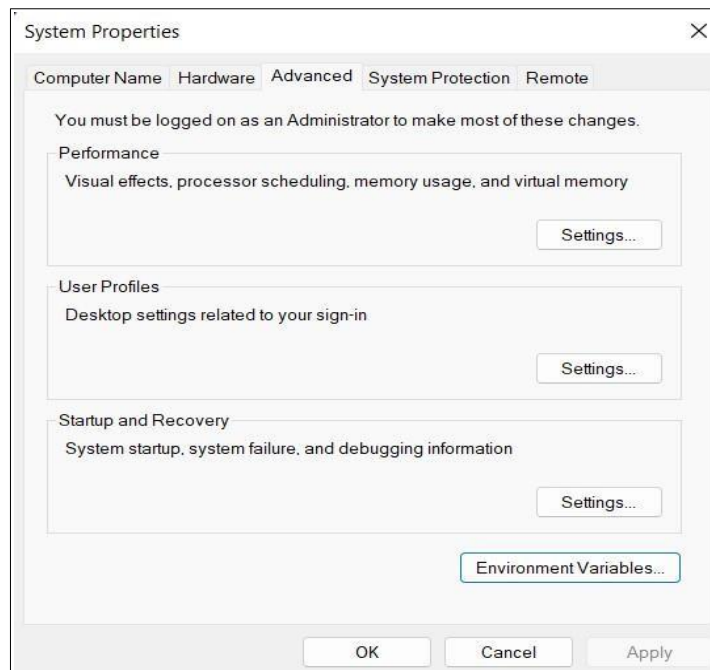
Step 4: Run the Java Development Kit (JDK) Installer: Locate the downloaded .exe file (e.g. jdk-23-windows-x64_bin.exe) and make the double click to begin the Installation process. Follow the installation wizard prompts to complete the installation process:



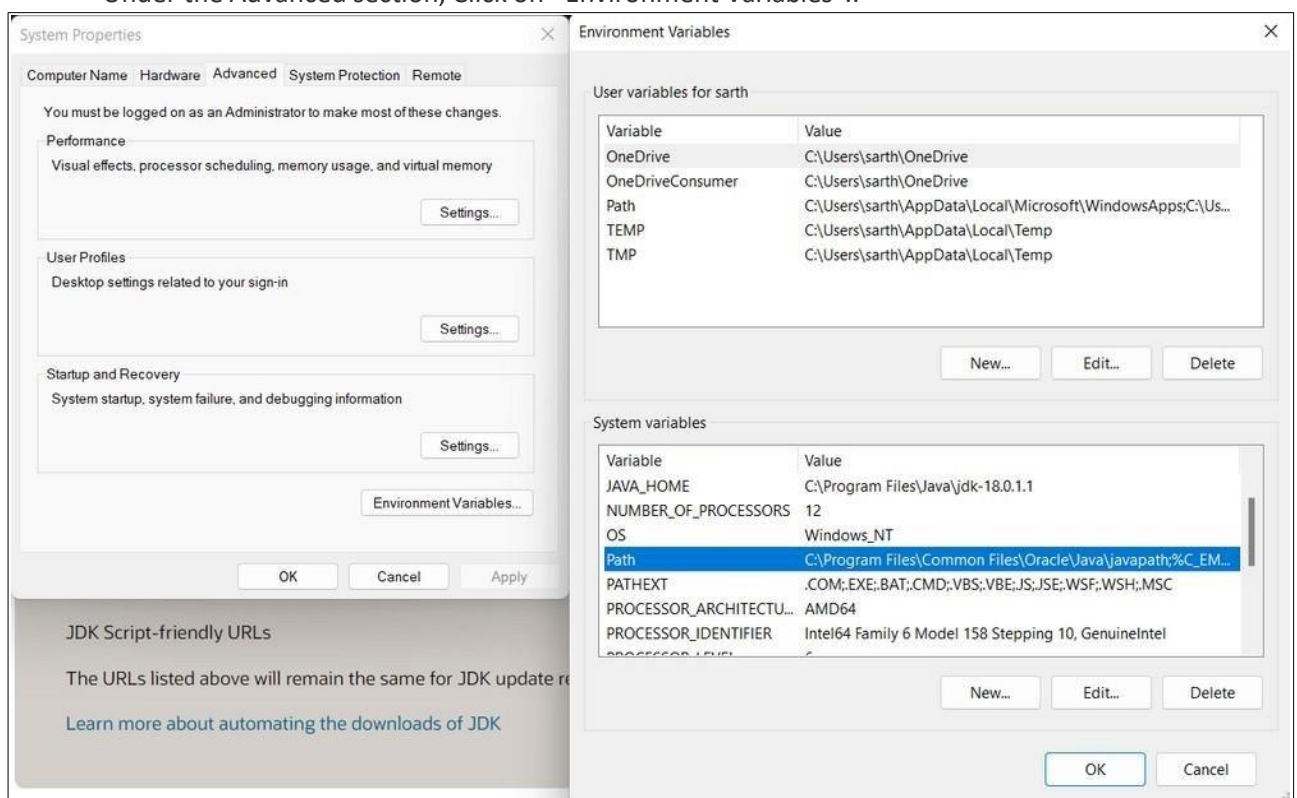
Step 5: Setup the Environment Variables: Once the installation gets completed, you need to configure environment variables to notify the system about the directory in which the JDK files are located. Proceed to C:\Program Files\Java\jdk-{YOUR_JDK_VERSION} \bin (replace {-} with your JDK version):



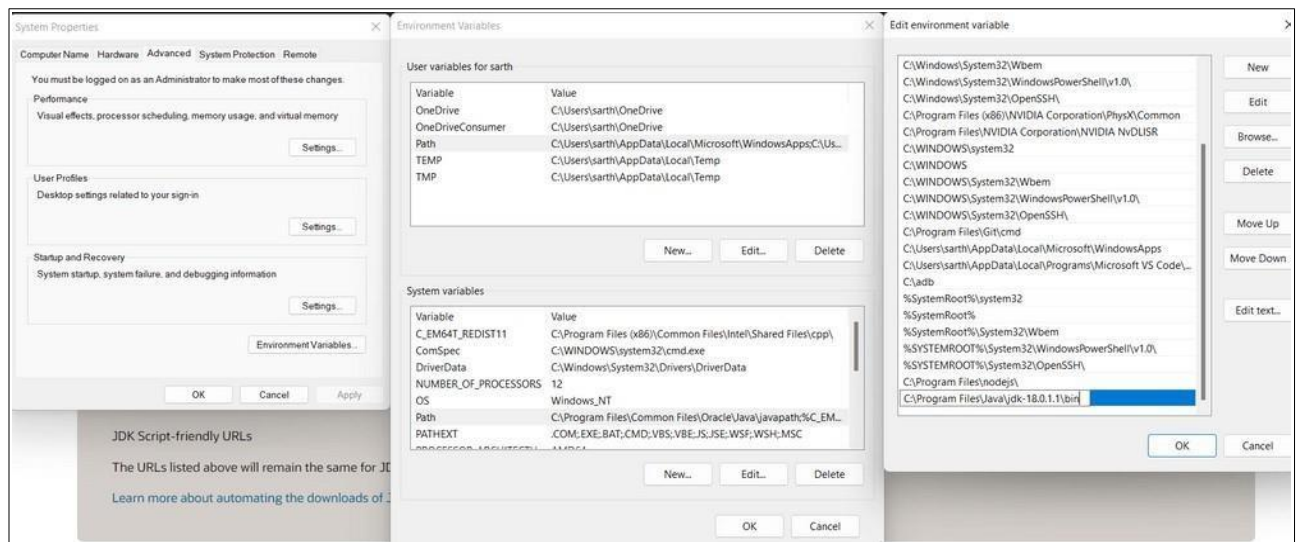
To set the Environment Variables, you need to search Environment Variables in the [Taskbar](#) and click on “Edit the system environment variables”:



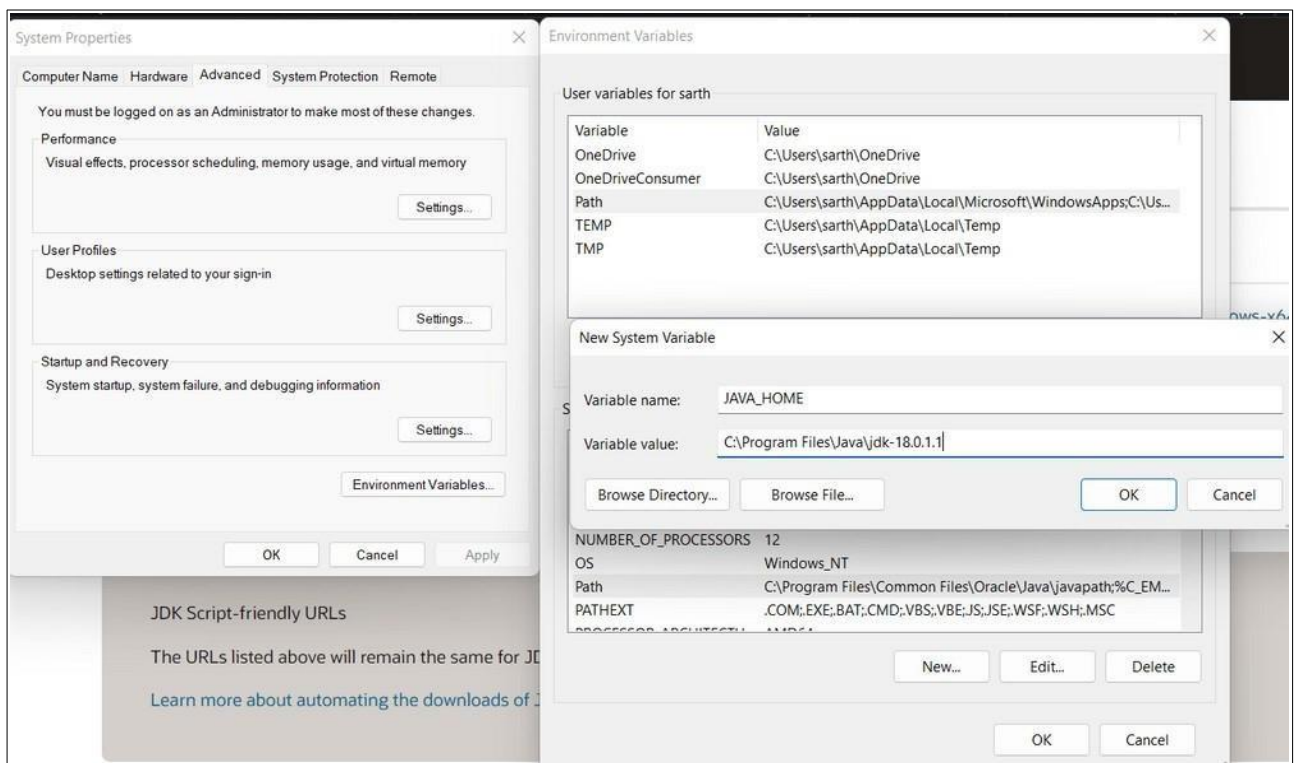
Under the Advanced section, Click on “Environment Variables” .:



Under System variables, select the “Path” variable and click on “Edit”. Click on “New” then paste the Path Address i.e. C:\Program Files\Java\jdk{YOUR_JDK_VERSION}\bin. Click on “OK”:



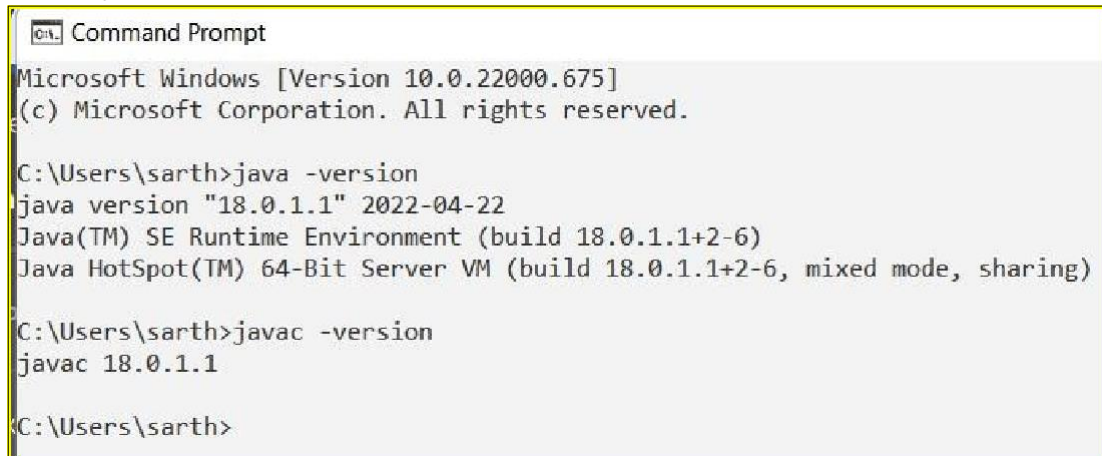
Now, in the Environment Variables dialogue, under System variables, click on “New” and then under Variable name: JAVA_HOME and Variable value: paste address i.e. `C:\Program Files\Java\jdk-{YOUR_JDK_VERSION}`. Click on OK => OK => OK:



Step 3: Check the Java Version: *Open Command Prompt and enter the following commands:*

java -version

javac -version



```
Command Prompt
Microsoft Windows [Version 10.0.22000.675]
(c) Microsoft Corporation. All rights reserved.

C:\Users\sarth>java -version
java version "18.0.1.1" 2022-04-22
Java(TM) SE Runtime Environment (build 18.0.1.1+2-6)
Java HotSpot(TM) 64-Bit Server VM (build 18.0.1.1+2-6, mixed mode, sharing)

C:\Users\sarth>javac -version
javac 18.0.1.1

C:\Users\sarth>
```

B] Setup Android SDK:

1. Android SDK now comes built in with Android's official IDE called "Android Studio".
2. Download [Android Studio](#) from here.
3. After downloading the setup for your respective OS, run the installer and the wizard will guide you through the installation steps.
4. You can now run the IDE to create Android apps.

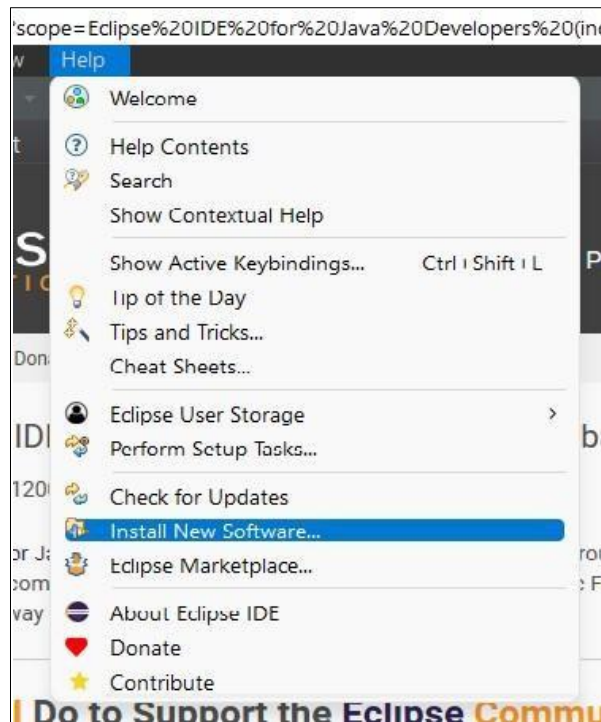
C] Install Eclipse IDE:

1. To install Eclipse IDE, click on [Download Eclipse](#)
2. Download [JDK \(Java Development Kit\)](#) and [Android Studio](#) as well.
3. In File Explorer, go to Downloads – "Eclipse IDE" will be downloaded.
4. Open Eclipse IDE, choose Eclipse IDE for Java Developers and Install.
5. Eclipse IDE environment is ready, now it's time to set up Android Development.

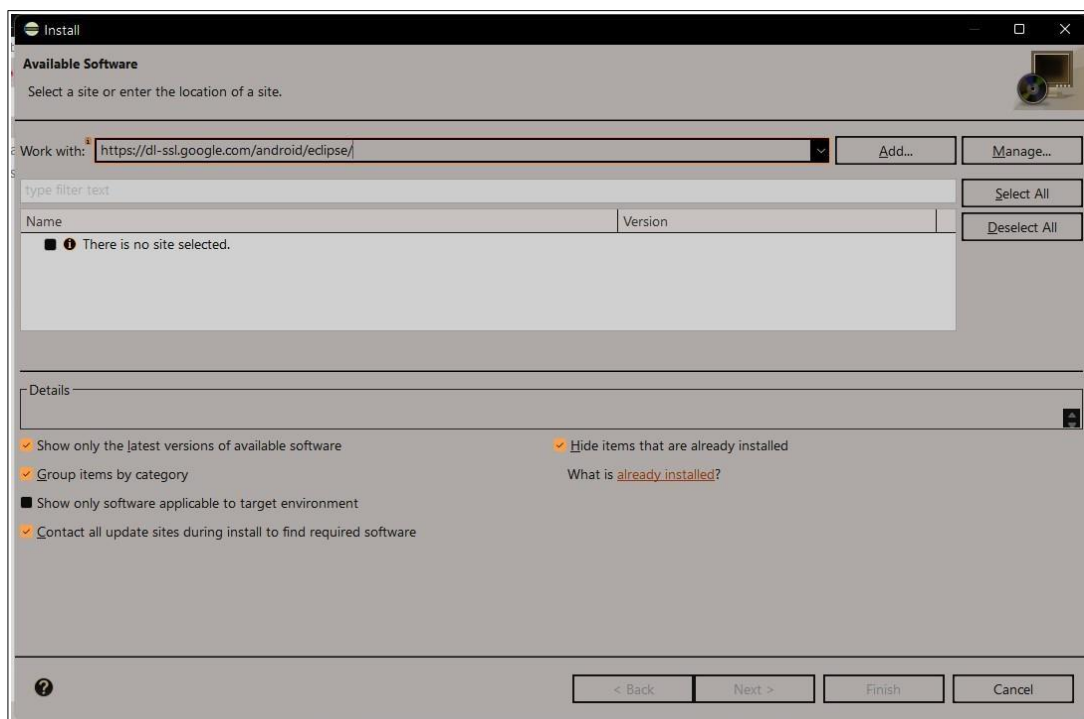
D] Setup Android Development Tools (ADT):

Step 1: Open Eclipse IDE.

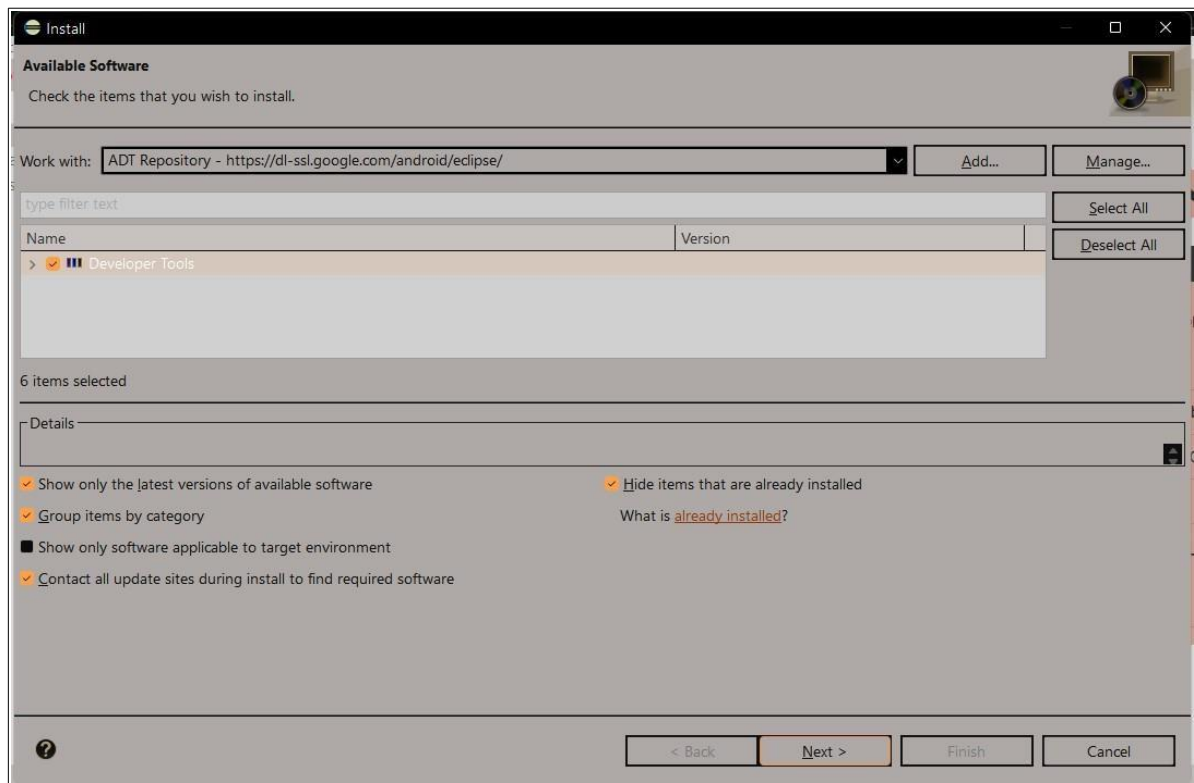
Step 2: Select Help, Click on “Install New Software”:



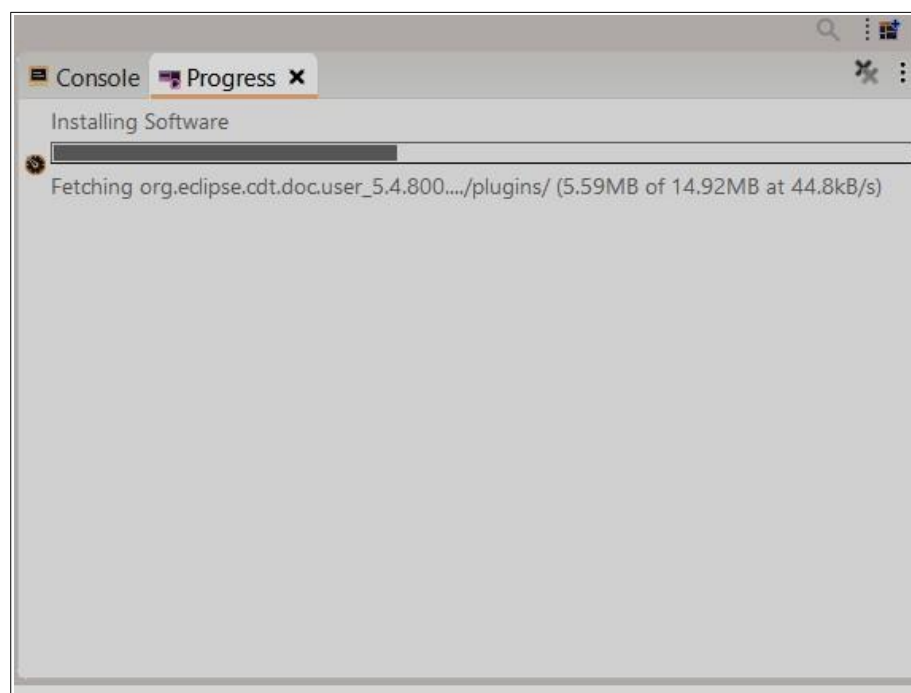
Step 3: Type “<https://dl-ssl.google.com/android/eclipse/>” in the “Work With” section and click on Add. Further, a new Dialog box will appear, type Name – ADT Repository and Click on Add:



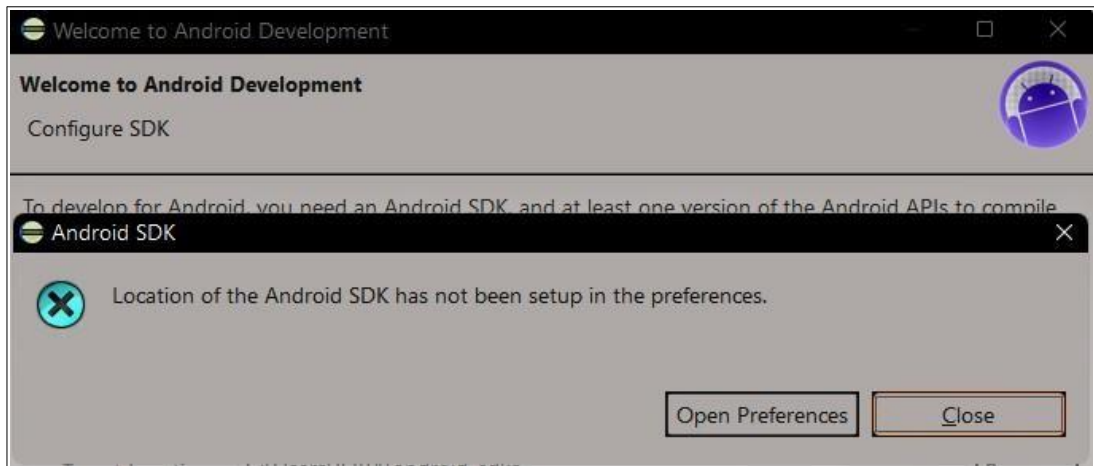
Step 4: You can see Developer Tools under Name – tick the box, then click Next. A dialog box will appear, click on Next and then click on Finish. After that, Installation will begin:



The installation will take some time:

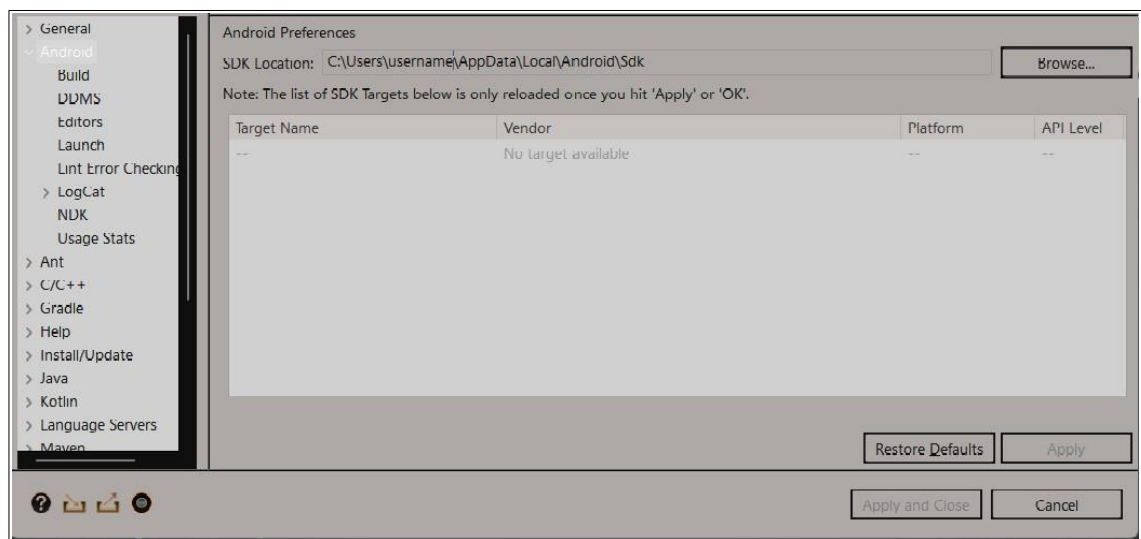


Step 5: After the installation is completed, Eclipse will be restarted. After the restart, a dialog box will appear for setting up the Preferences. Click on Open Preferences then Click on Proceed. If the dialog box does not appear then go to Eclipse -> Window -> Preferences:

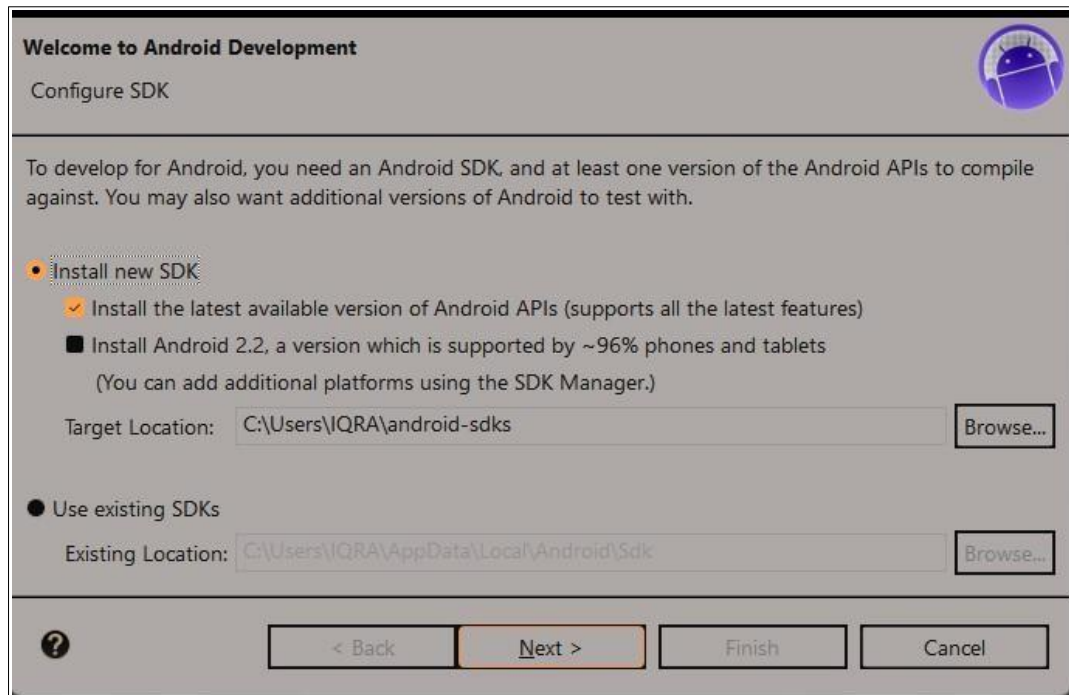


Step 6: Browse the SDK Location of Android (C:\Program Files\Android\androidsdk) and Click Apply:

Note: SDK Path is also present in Android Studio -> Tools -> SDK Manager -> Copy the Android SDK Location path and paste it here:

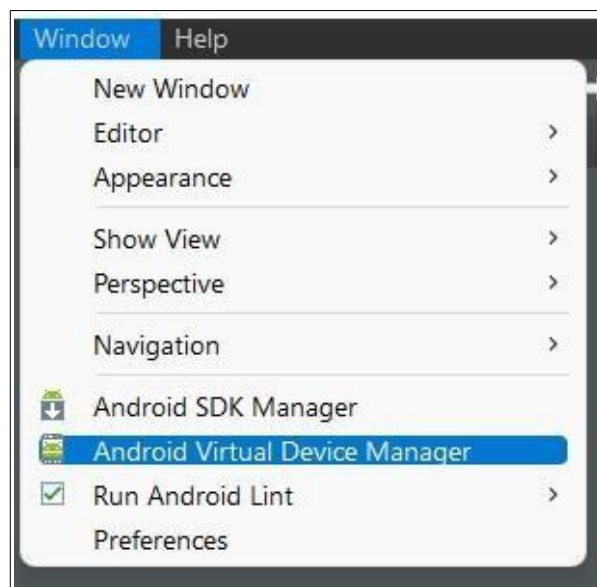


Step 7: Click on Install new SDK then Next. Another dialog box will appear, Accept all three packages and Click on Install:

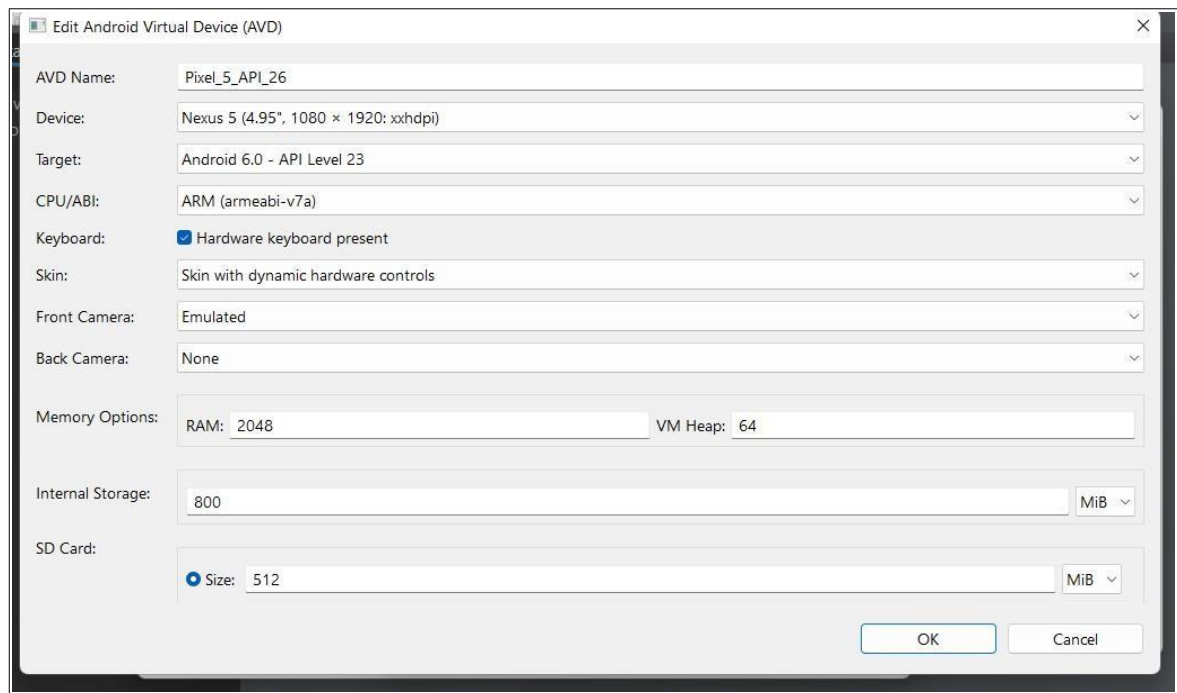


After installation of packages, SDK Manager will appear for API Level Build Tools and System Images installation. Click on Install.

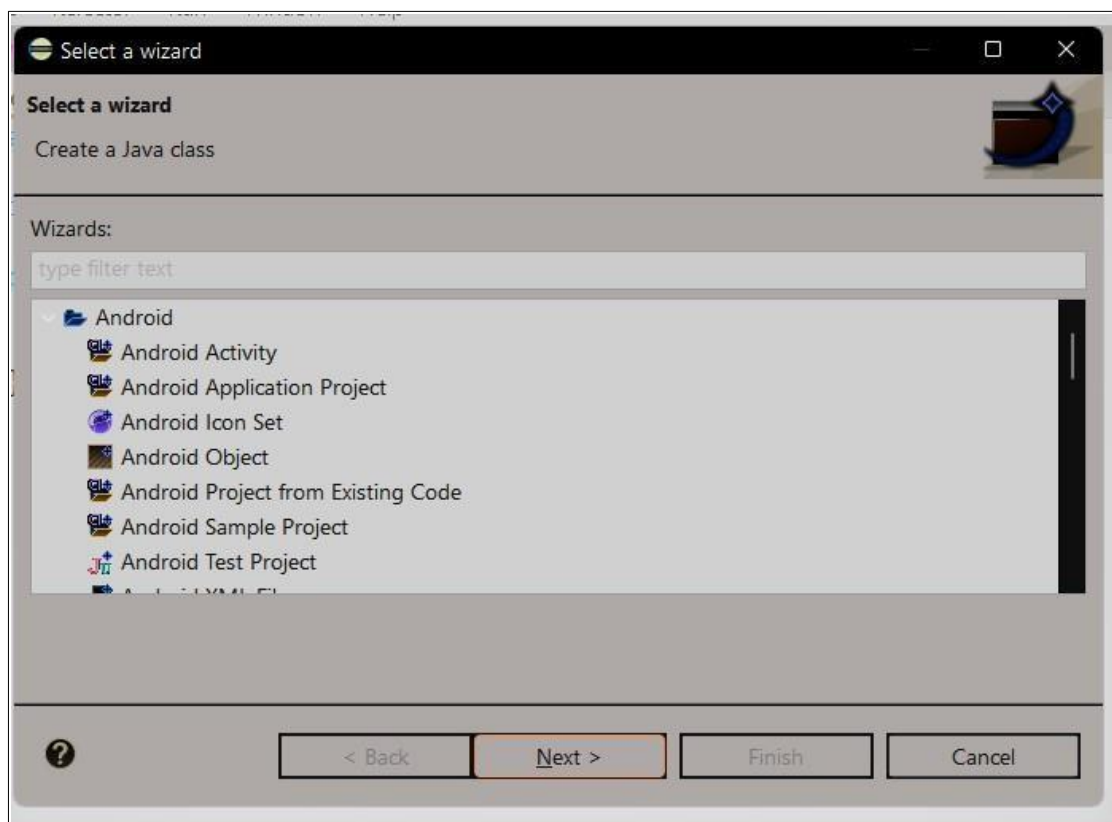
Step 8: After installation is completed, Go to Eclipse then Select Window then Click on Android Virtual Device Manager. A dialog box will appear, Select existing AVD and Click on Edit:



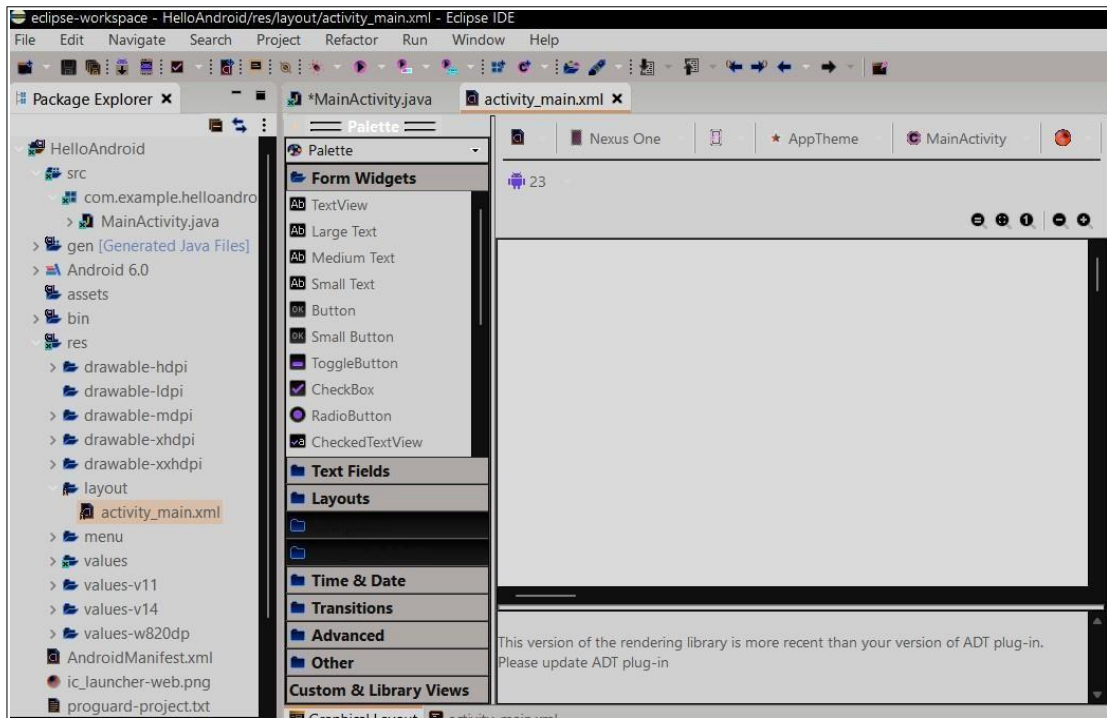
Fill in all the details as per the below image. Click OK.



Step 9: To create an android application, Select File -> New -> Other, and then the below dialog box will appear Select Android -> Android Application Project then Click on Next. Follow the steps and then click on Finish:



Step 10: Eclipse IDE setup is completed for Android Application Development:



E] Create Android Virtual Device (AVD):

1. To test your Android applications you will need a virtual Android device. So before we start writing our code, let us create an Android virtual device.
2. Launch Android AVD Manager using Eclipse menu options Window > AVD Manager> which will launch Android AVD Manager.
3. Use New button to create a new Android Virtual Device and enter the following information, before clicking Create AVD button:



4. If your AVD is created successfully it means your environment is ready for Android application development.

Practical no:- 2

Practical name:- Create “hello world” application. That will display “hello world” in middle Of the screen using Textview widget in the red color.

```
<?xml version="1.0" encoding="utf-8"?>

<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"

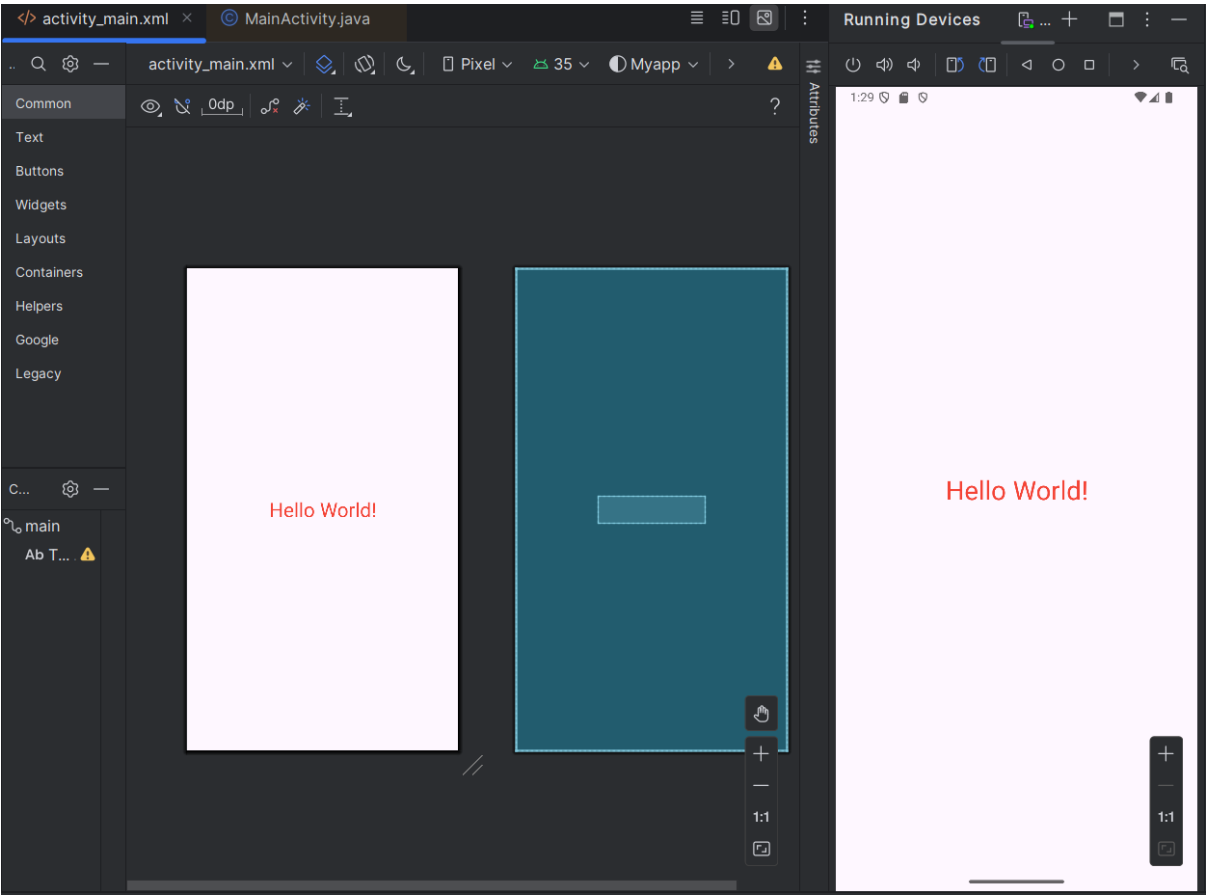
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        android:textColor="#F44336"
        android:textSize="30dp"
        android:textAlignment="center"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

OUTPUT:-



Practical no:3

Practical Name:- create a Registration page to demonstrate of Basic widgets available in android.

```
<?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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:background="#ff3399"
    android:gravity="center"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/register_form"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Registration Form"
        android:layout_marginLeft="10dp"
        android:padding="10dp"
        android:textSize="30dp"
        android:textStyle="bold"

        android:textColor="@color/design_default_color_primary_dark"/>

    <EditText
        android:id="@+id/firstname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="FirstName"
        android:textSize="20dp"
        android:layout_marginTop="20dp"/>

    <EditText
        android:id="@+id/lastname"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="LastName"
        android:textSize="20dp"
        android:layout_marginTop="20dp"/>

    <EditText
        android:id="@+id/mobile"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="MobileNo"
        android:textSize="20dp"
        android:layout_marginTop="20dp"/>

    <EditText
        android:id="@+id/password"
        android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
    android:hint="Password"
    android:textSize="20dp"
    android:layout_marginTop="20dp"/>
```

```
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:id="@+id/next"
    android:text="Submit"
    android:textSize="20dp"
    android:backgroundTint="@color/design_default_color_primary"
/>
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="already have a account"/>
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:paddingTop="10dp"
    android:paddingLeft="5dp"
    android:textColor="@color/design_default_color_primary"
/>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

OUTPUT:-



A mobile application registration form with a light blue background. The form includes input fields for First Name, Last Name, Mobile Number, and Password, each with a corresponding label. A red 'Submit' button is positioned below the password field. Below the button is a link that says 'already have a account'. The top of the screen shows a status bar with the time 10:09 and various icons. The bottom of the screen features a white home indicator bar.

10:09

Registration Form

FirstName

LastName

MobileNo

Password

Submit

[already have a account](#)

Practical no:4

Practical Name:- create sample application with login module(check username and password) on successful login, change TextView “Login Successful” and on failing login, alert user using Toast “Login Fail”.

mainActivity.java File

```
package com.example.loginapp;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    EditText username;
    EditText psword;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        username = findViewById(R.id.user_name);
        psword = findViewById(R.id.pass_word);
        Button myButton = findViewById(R.id.next);
        myButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if((username.getText().toString().equals("user@gmail.com")) &&
                (psword.getText().toString().equals("12345")))
                {
                    Toast.makeText(getApplicationContext(),"Login Successful !", Toast.LENGTH_LONG).show();
                }
                else
                {
                    Toast.makeText(getApplicationContext(), "Login Failed !", Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}
```

```
    }  
    });  
}  
}
```

activity_main.xml File

```
<?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:id="@+id/main"  
    android:layout_width="match_parent"  
    android:layout_height="match_parent"  
    android:orientation="vertical"  
    android:background="@drawable/img_2"  
    tools:context=".MainActivity">  
  
    <TextView  
        android:id="@+id/lgform"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:text="Login Form"  
        android:textSize="30sp"  
        android:textStyle="bold"  
        android:textColor="@color/white"  
        android:layout_marginLeft="120dp"  
        android:padding="20dp"  
        android:layout_marginTop="70dp"/>  
  
    <EditText  
        android:id="@+id/user_name"  
        android:layout_width="match_parent"  
        android:layout_height="wrap_content"
```

```

        android:hint="Username"
        android:textColorHint="@color/white"
        android:layout_marginTop="20dp"
        android:padding="20dp"
        android:drawableLeft="@drawable/baseline_account_circle_24"
        android:drawablePadding="10dp"
        android:background="@drawable/input_bg"/>
<EditText
    android:id="@+id/pass_word"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Password"
    android:textColorHint="@color/white"
    android:layout_marginTop="20dp"
    android:padding="20dp"
    android:drawableLeft="@drawable/baseline_android_24"
    android:drawablePadding="10dp"
    android:background="@drawable/input_bg"/>
<Button
    android:id="@+id/next"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Login"
    android:backgroundTint="@color/design_default_color_primary"
    android:layout_marginTop="40dp"
    android:paddingLeft="50dp"
    android:paddingRight="50dp"
    android:layout_marginLeft="140dp"/>
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:gravity="center">

```



```
<TextView
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:text="Forgot password"
```

```
    android:layout_marginLeft="10dp"
```

```
    android:textColor="@color/white"/>
```

```
<TextView
```

```
    android:layout_width="wrap_content"
```

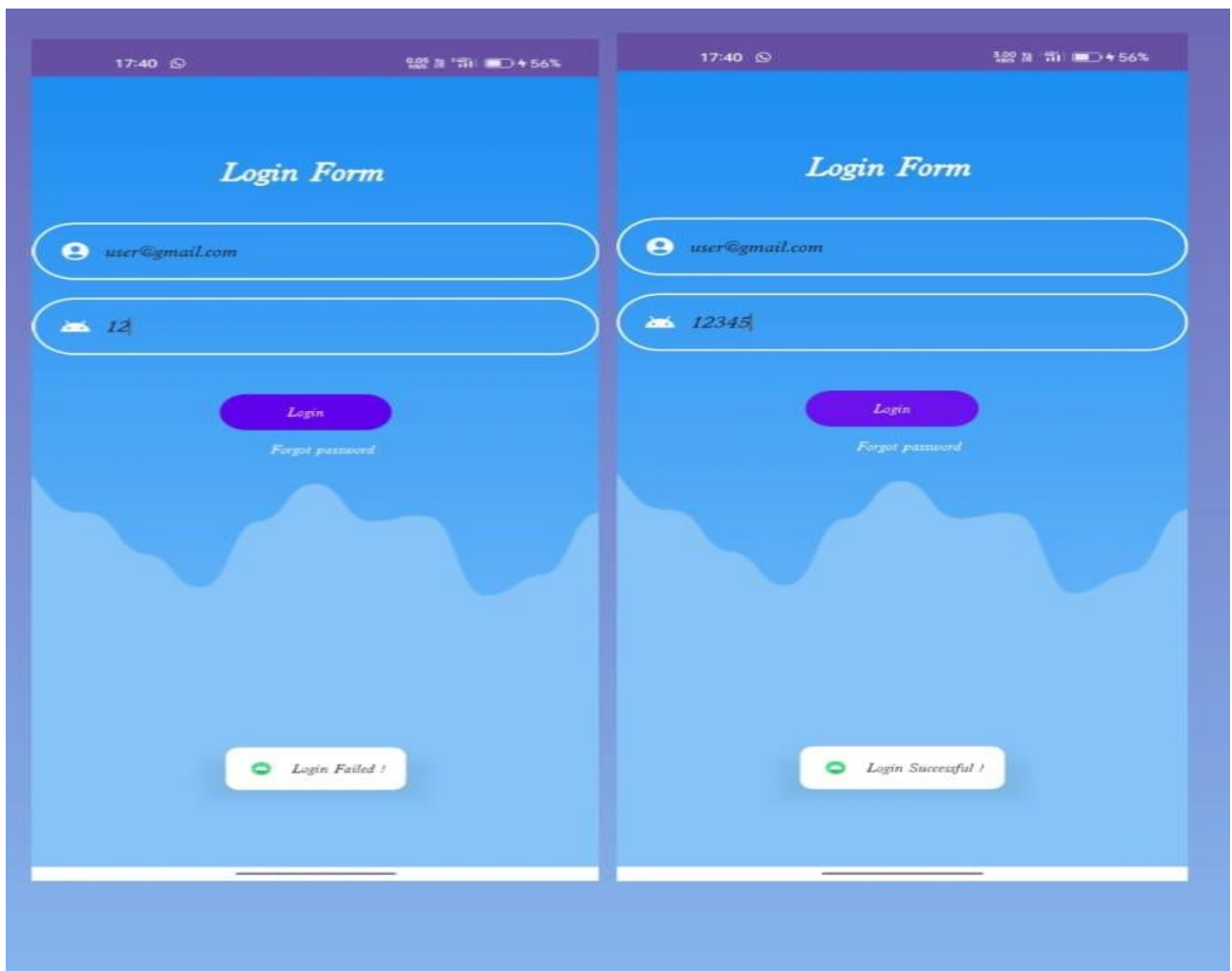
```
    android:layout_height="wrap_content"
```

```
    android:paddingTop="20dp"/>
```

```
</LinearLayout>
```

```
</LinearLayout>
```

OUTPUT:-



Practical no:5

Practical Name:- create an application for demonstrate of scroll view in android.

MainActivity.java

```
package com.example.scrollview;

import android.os.Bundle;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
            Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
            return insets;
        });
    }
}
```

activity_main.xml File

```
<?xml version="1.0" encoding="utf-8"?>
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
```

```
android:background="#b3fcea"
tools:context=".MainActivity">
```

```
<RelativeLayout
```

```
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginBottom="10sp"
    android:layout_marginTop="10sp"
    android:layout_marginStart="10sp"
    android:layout_marginEnd="10sp">
```

```
<LinearLayout
```

```
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<EditText
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Scroll View"
    android:textSize="25sp"
    android:textStyle="bold"
    android:textAlignment="center"
    android:layout_marginTop="20sp"
    android:layout_marginBottom="20sp"/>
```

```
<Button
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="1"
    android:textColor="#ffffff"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
```

```
<Button
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
```

```
        android:text="2"
        android:textColor="#ffffff"
        android:layout_marginTop="10sp"
        android:textAlignment="center"
        android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="3"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="4"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="5"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="6"
```

```
android:textColor="#ffffff"
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="7"
android:textColor="#ffffff"
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="8"
android:textColor="#ffffff"
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="9"
android:textColor="#ffffff"
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="10"
android:textColor="#ffffff"
```

```
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

```
<Button
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="11"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
```

```
<Button
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="12"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
```

```
<Button
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="13"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
```

```
<Button
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="14"
    android:textColor="#ffffff"
```



```
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="15"
android:textColor="#ffffff"
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="16"
android:textColor="#ffffff"
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="17"
android:textColor="#ffffff"
android:layout_marginTop="10sp"
android:textAlignment="center"
android:background="@color/design_default_color_primary"/>
```

<Button

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="18"
android:textColor="#ffffff"
android:layout_marginTop="10sp"
```

```
        android:textAlignment="center"
        android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="19"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="20"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="21"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="22"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
```

```
        android:background="@color/design_default_color_primary"/>
<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="23"
    android:textColor="#ffffff"
    android:layout_marginTop="10sp"
    android:textAlignment="center"
    android:background="@color/design_default_color_primary"/>
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="20sp"
    android:textColor="@color/black"
    android:text="24"
    android:layout_marginBottom="10sp"
    android:textAlignment="center"
    android:layout_marginTop="10sp"
    tools:ignore="Hardcodedtext"/>
</LinearLayout>
</RelativeLayout>
</ScrollView>
```

OUTPUT:-



Practical no:6

Practical name:-Create login application where you will have to validate username and password till the & username and password is not validated, login button should remain disabled.

MainActivity.java:

```
package com.example.disabledlogin;
import android.os.Bundle;
import android.text.Editable;
import android.text.TextWatcher;
import android.widget.Button;
import android.widget.EditText;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private EditText edittextUN;
    private EditText edittextPass;
    private Button btnLog;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        edittextUN = findViewById(R.id.edittxt_Username);
        edittextPass = findViewById(R.id.edittxt_Password);
        btnLog = findViewById(R.id.button_Login);
        edittextUN.addTextChangedListener(loginTextWatcher);
        edittextPass.addTextChangedListener(loginTextWatcher);
    }

    private final TextWatcher loginTextWatcher = new TextWatcher() {
        @Override
        public void beforeTextChanged(CharSequence s, int start, int count, int after) {
        }

        @Override
        public void onTextChanged(CharSequence s, int start, int before, int count) {
            String usernameInput = edittextUN.getText().toString();
            String passwordInput = edittextPass.getText().toString();
            btnLog.setEnabled(!usernameInput.isEmpty() && !passwordInput.isEmpty());
        }

        @Override
        public void afterTextChanged(Editable s) {
        }
    };
}
```

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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="20dp"
    android:layout_gravity="center_horizontal"
    android:orientation="vertical"
    android:padding="15dp"
    tools:context=".MainActivity">
    <EditText
        android:id="@+id/edittxt_Username"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"

        android:layout_marginTop="70dp"
        android:autoFillHints=""
        android:hint="@string/username"
        android:inputType="text"
        android:textColorHint="#78909C"
        android:textSize="20sp"
        tools:ignore="VisualLineTextFieldSize,VisualLintTextFieldSize" />
    <EditText
        android:id="@+id/edittxt_Password"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="@string/password"
        android:importantForAutofill="no"
        android:inputType="textPassword"
        android:textColorHint="#78909C"
        android:textSize="20sp"
        tools:ignore="VisualLintTextFieldSize" />

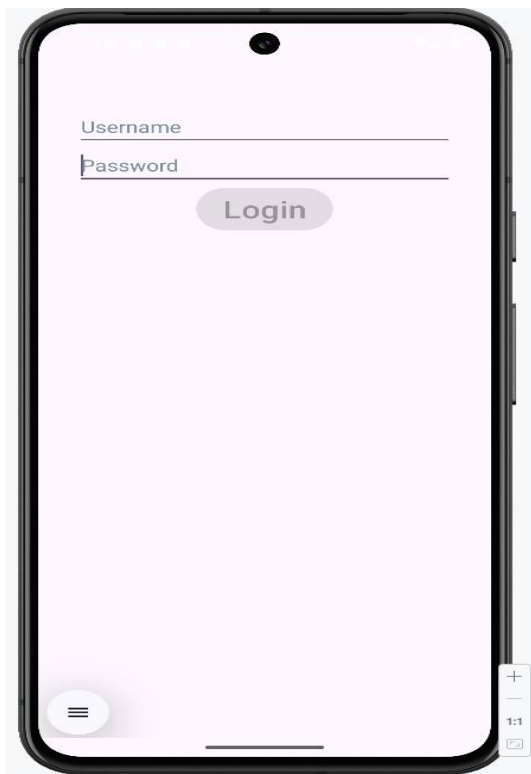
    <Button
        android:id="@+id/button_Login"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:enabled="true"
        android:text="@string/login"
        android:textSize="30sp" />
</LinearLayout>
```


strings.xml:

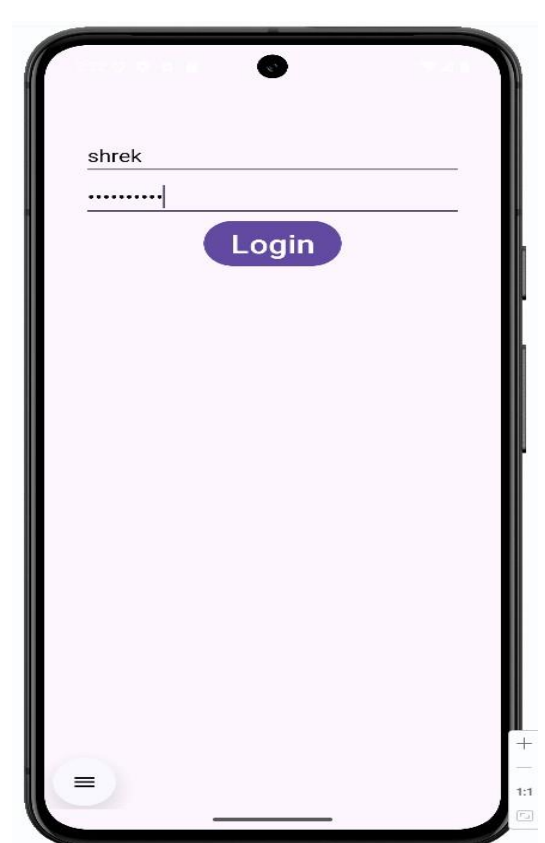
```
<resources>
  <string name="app_name">Disabled Login</string>
  <string name="username">Username</string>
  <string name="password">Password</string>
  <string name="login">Login</string>
</resources>
```

OUTPUT:-

without data entered



with data entered



Practical no:7

Practical Name:-create a application for calculator

MainActivity.java

```
package com.example.calculator;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity implements View.OnClickListener {

    Button buttonAdd, buttonSub, buttonMul, buttonDiv;
    EditText EditTextN1, EditTextN2;
    TextView textView;
    int num1, num2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        buttonAdd = findViewById(R.id.btn_add);
        buttonSub = findViewById(R.id.btn_sub);
        buttonMul = findViewById(R.id.btn_mul);
        buttonDiv = findViewById(R.id.btn_div);
        EditTextN1 = findViewById(R.id.number1);
        EditTextN2 = findViewById(R.id.number2);
        textView = findViewById(R.id.answer);
```

```

buttonAdd.setOnClickListener(this);
buttonSub.setOnClickListener(this);
buttonMul.setOnClickListener(this);
buttonDiv.setOnClickListener(this);
}

public int getIntFromEditText(EditText editText){
    if (editText.getText().toString().equals(""))
    {
        Toast.makeText(this,"Enter Number",Toast.LENGTH_SHORT).show();
        return 0;
    }
    else
    {
        return Integer.parseInt(editText.getText().toString());
    }
}

@Override
public void onClick(View view) {
    num1 = getIntFromEditText(EditTextN1);
    num2 = getIntFromEditText(EditTextN2);
    switch (view.getId()){
        case R.id.btn_add:
            textView.setText("Answer = " + (num1 + num2));
            break;
        case R.id.btn_sub:
            textView.setText("Answer = " + (num1 - num2));
            break;
        case R.id.btn_mul:
            textView.setText("Answer = " + (num1 * num2));
            break;
        case R.id.btn_div:
            textView.setText("Answer = " + ((float) num1 / (float) num2));
            break;
    }
}

```

```
}
```

```
}
```

```
}
```

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:id="@+id/main"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent"
```

```
    android:orientation="vertical"
```

```
    android:padding="20dp"
```

```
    tools:context=".MainActivity">
```

```
<TextView
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:text="Simple Calculator"
```

```
    android:layout_gravity="center"
```

```
    android:textSize="30sp"
```

```
    android:layout_marginTop="30sp"
```

```
    android:textStyle="bold"/>
```

```
<EditText
```

```
    android:id="@+id/number1"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginTop="30sp"
```

```
    android:hint="Enter First Number"
```

```
    android:inputType="number"
```

```
    android:minHeight="48dp" />
```

```
<EditText
```

```
    android:id="@+id/number2"
```

```
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_marginTop="10sp"
android:hint="Enter Second Number"
android:inputType="number"
android:minHeight="48dp" />
```

```
<LinearLayout
```

```
    android:layout_marginTop="30dp"
    android:orientation="horizontal"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
```

```
<Button
```

```
    android:id="@+id/btn_add"
    android:text="+"
    android:textSize="30dp"
    android:layout_marginEnd="5dp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>
```

```
<Button
```

```
    android:id="@+id/btn_sub"
    android:text="-"
    android:textSize="30dp"
    android:layout_marginEnd="5dp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>
```

```
<Button
```

```
    android:id="@+id/btn_mul"
    android:text="x"
    android:textSize="30dp"
    android:layout_marginEnd="5dp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>
```

```
<Button
```

```
android:id="@+id/btn_div"  
android:text="/"   
android:textSize="30dp"  
android:layout_marginEnd="5dp"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"/>
```

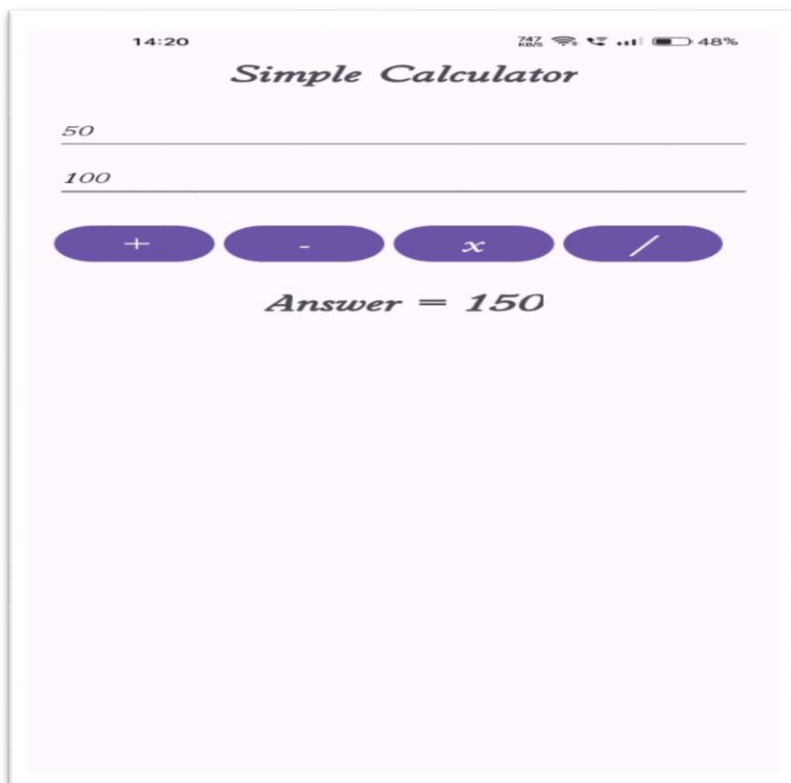
```
</LinearLayout>
```

```
<TextView
```

```
android:id="@+id/answer"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:layout_gravity="center"  
android:textSize="30sp"  
android:textStyle="bold"  
android:layout_marginTop="30dp"/>
```

```
</LinearLayout>
```

OUTPUT:-



Practical no:- 8

Practical name:- Demonstrate use of ScrollView.

- **Horizontal ScrollView:**

MainActivity.java:

```
package com.example.horizontalscrollview;

import android.os.Bundle;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="15dp"
    tools:context=".MainActivity">

    <HorizontalScrollView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        tools:ignore="SpeakableTextPresentCheck,UselessParent">
        <LinearLayout
            android:layout_width="wrap_content"
            android:layout_height="match_parent"
            android:orientation="horizontal"
            tools:ignore="VisualLintBounds">

            <ImageView
                android:layout_width="150dp"
                android:layout_height="150dp"
```

```

        android:layout_marginTop="120dp"
        android:layout_marginEnd="5dp"
        android:scaleType="centerCrop"
        android:src="@drawable/image1"
        tools:ignore="ContentDescription,ImageContrastCheck" />
<ImageView
    android:layout_width="150dp"
    android:layout_height="150dp"
    android:layout_marginEnd="5dp"
    android:layout_marginTop="120dp"
    android:scaleType="centerCrop"
    android:src="@drawable/image2" tools:ignore="ContentDescription" />
<ImageView
    android:layout_width="150dp"
    android:layout_height="150dp"
    android:layout_marginTop="120dp"
    android:layout_marginEnd="5dp"
    android:scaleType="centerCrop"
    android:src="@drawable/image3"
    tools:ignore="ContentDescription" />
<ImageView
    android:layout_width="150dp"
    android:layout_height="150dp"
    android:layout_marginEnd="5dp"
    android:layout_marginTop="120dp"
    android:scaleType="centerCrop"
    android:src="@drawable/image4"
    tools:ignore="ContentDescription" />
<ImageView
    android:layout_width="150dp"
    android:layout_height="150dp"
    android:layout_marginRight="5dp"
    android:layout_marginTop="120dp"
    android:scaleType="centerCrop"
    android:src="@drawable/image5"
    tools:ignore="ContentDescription,RtlHardcoded" />
</LinearLayout>
</HorizontalScrollView>
</LinearLayout>

```


OUTPUT:-



Practical no:- 9

Practical name:- Demonstrate use of intent in android.

MainActivity.java

```
package com.example.intent;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

public class MainActivity extends AppCompatActivity {

    EditText editTextSubject, editTextContent, editTextToEmail;

    Button button;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        EdgeToEdge.enable(this);

        setContentView(R.layout.activity_main);

        button = findViewById(R.id.btnSend);

        editTextSubject = findViewById(R.id.subject);

        editTextContent = findViewById(R.id.content);

        editTextToEmail = findViewById(R.id.to_email);

        button.setOnClickListener(new View.OnClickListener() {
```

```

@Override

public void onClick(View view) {
    String subject, content, to_email;
    subject = editTextSubject.getText().toString();
    content = editTextContent.getText().toString();
    to_email = editTextToEmail.getText().toString();
    if(subject.equals("") && content.equals("") && to_email.equals("")){
        Toast.makeText(MainActivity.this, "All fields are required",
Toast.LENGTH_SHORT).show();
    }else{
        sendEmail(subject, content, to_email);
    }
}

});
}

public void sendEmail(String subject, String content, String to_email){
    Intent intent = new Intent(Intent.ACTION_SEND);
    intent.putExtra(Intent.EXTRA_EMAIL, new String[]{to_email});
    intent.putExtra(Intent.EXTRA_SUBJECT, subject);
    intent.putExtra(Intent.EXTRA_TEXT, content);
    intent.setType("message/rfc822");
    startActivity(Intent.createChooser(intent, "Choose an Email Client"));
}
}

```

activi_y_main.xml file

```

<?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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"

```

```
android:orientation="vertical"
android:gravity="center"
android:padding="20dp"
tools:context=".MainActivity">
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Compose Email"
    android:textSize="25sp"
    android:textStyle="bold"
    android:layout_marginBottom="20dp"/>
<EditText
    android:layout_width="125dp"
    android:layout_height="95dp"
    android:background="@drawable/img"
    android:minWidth="10dp"
    android:minHeight="10dp" />
<EditText
    android:id="@+id/subject"
    android:layout_marginTop="20dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Subject"
    android:minHeight="48dp" />
<EditText
    android:id="@+id/content"
    android:layout_marginTop="20dp"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Content"
    android:minHeight="48dp" />
<EditText
    android:id="@+id/to_email"
```

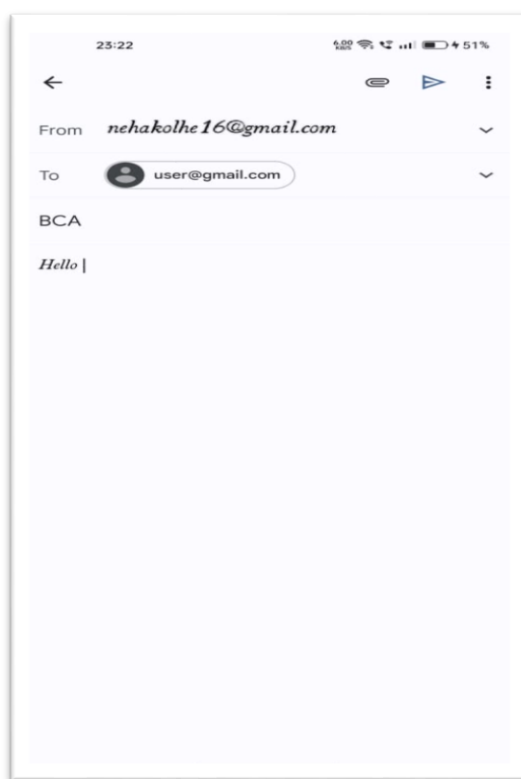
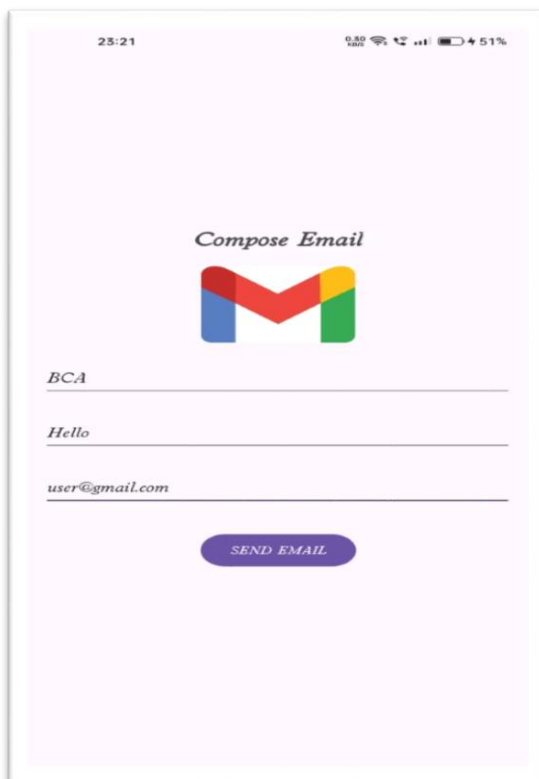
```
android:layout_marginTop="20dp"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:hint="Enter to Email "
android:minHeight="48dp"
tools:ignore="Autofill" />
```

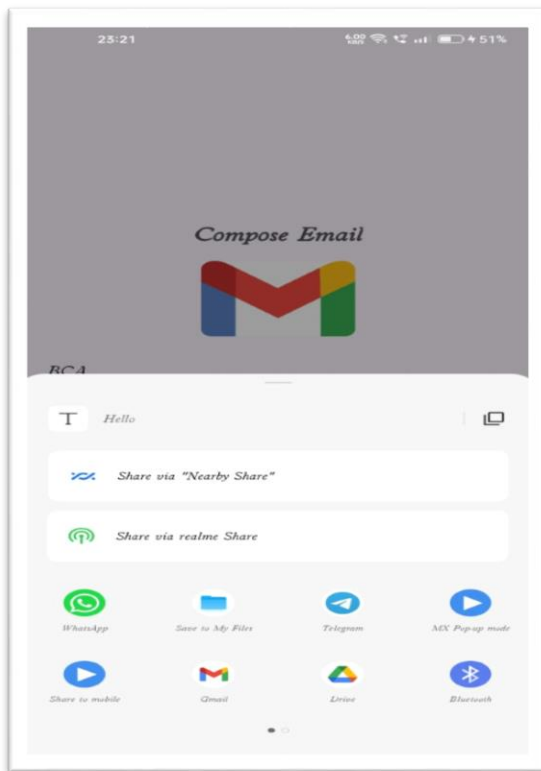
```
<Button
```

```
    android:id="@+id/btnSend"
    android:text="SEND EMAIL "
    android:layout_marginTop="30dp"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>
```

```
</LinearLayout>
```

OUTPUT:





Practical no:- 10

Practical name:- Create application to demonstrate menu option.

I) Options Menu:

MainActivity.java

```
package com.example.menuoptions;

import android.os.Bundle;

import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu, menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        int id = item.getItemId();
        if (id == R.id.item1) {
            Toast.makeText(this, "Item 1 selected", Toast.LENGTH_SHORT).show();
        } else if (id == R.id.item2) {
            Toast.makeText(this, "Item 2 selected", Toast.LENGTH_SHORT).show();
        } else if (id == R.id.item3) {
            Toast.makeText(this, "Item 3 selected", Toast.LENGTH_SHORT).show();
        } else {
            return super.onOptionsItemSelected(item);
        }
        return true;
    }
}
```

activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    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:id="@+id/main"
    android:layout_width="match_parent" android:layout_height="match_parent"
    tools:context=".MainActivity">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

menu.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:title="@string/item1"
        android:id="@+id/item1"/>
    <item
        android:title="@string/item2"
        android:id="@+id/item2"/>
    <item
        android:title="@string/item3"
        android:id="@+id/item3"/>
</menu>
```

strings.xml:

```
<resources>
    <string name="app_name">MenuOptions</string>
    <string name="item1">Item 1</string>
    <string name="item2">Item 2</string>
    <string name="item3">Item 3</string>
</resources>
```


themes.xml :

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <style name="Base.Theme.MenuOptions"
        parent="Theme.AppCompat.DayNight.DarkActionBar">
    </style>

    <style name="Theme.MenuOptions" parent="Base.Theme.MenuOptions" />
</resources>
```

themes.xml :

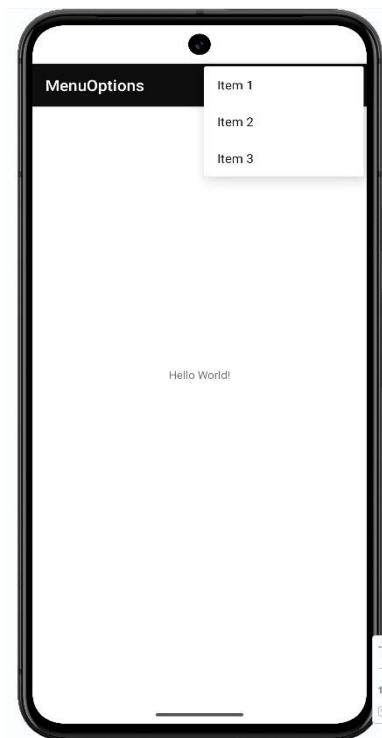
```
<resources xmlns:tools="http://schemas.android.com/tools">
    <style name="Base.Theme.MenuOptions"
        parent="Theme.AppCompat.DayNight.DarkActionBar">
    </style>
</resources>
```

OUTPUT:-

a] Homepage :



b) After clicking Menu button:



c) After clicking one of the menu buttons:



II)Popup Menu:

MainActivity.java:

```
package com.example.popup_menu;

import android.os.Bundle;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.PopupMenu;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    Button button;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button = findViewById(R.id.button);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                PopupMenu popupMenu = new PopupMenu(MainActivity.this, button);
                popupMenu.getMenuInflater().inflate(R.menu.popup_menu,
                popupMenu.getMenu());
                popupMenu.setOnMenuItemClickListener(new
                PopupMenu.OnMenuItemClickListener() {
                    @Override
                    public boolean onMenuItemClick(MenuItem menuItem) {
                        Toast.makeText(MainActivity.this, "You Clicked " + menuItem.getTitle(),
                        Toast.LENGTH_SHORT).show();

                        return true;
                    }
                });
                popupMenu.show();
            }
        });
    }
}
```

a] 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent" android:gravity="center"
    android:orientation="vertical">
    <Button
        android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/show_popup_menu" />
</LinearLayout>
```

b] popup_menu.xml :

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item android:id="@+id/one" android:title="@string/one" />
    <item android:id="@+id/two" android:title="@string/two" />
    <item android:id="@+id/three" android:title="@string/three" />
</menu>
```

c] strings.xml:

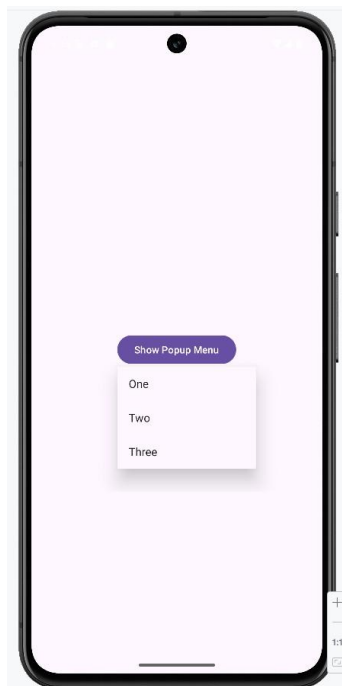
```
<resources>
    <string name="app_name">POPUP_MENU</string>
    <string name="show_popup_menu">Show Popup Menu</string>
    <string name="one">One</string>
    <string name="two">Two</string>
    <string name="three">Three</string>
</resources>
```

OUTPUT:-

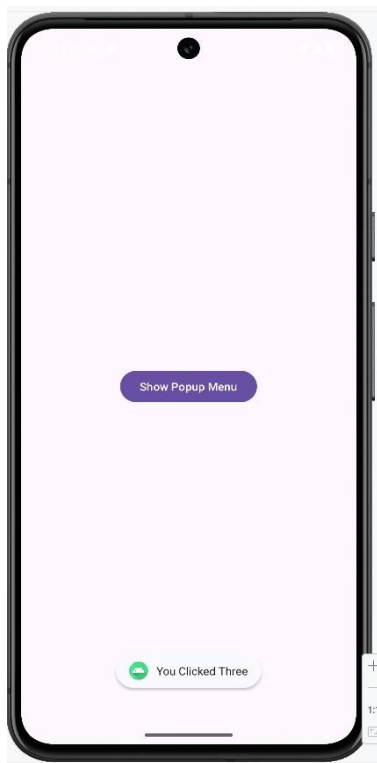
Homepage :



After clicking Popup-Menu button:



After clicking one of the menu buttons:



II)Context Menu:

a] MainActivity.java:

```
package com.example.contextmenu;

import android.os.Bundle;
import android.view.ContextMenu;
import android.view.MenuInflater;
import android.view.MenuItem;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.AdapterView.OnItemSelectedListener;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    ListView listView;
    String contacts[]={ "Abhishek", "Ashish", "Piyush", "Shraddha", "Chaitali"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        listView=(ListView)findViewById(R.id.listView);
        ArrayAdapter<String> adapter= new ArrayAdapter<>(this,
        android.R.layout.simple_list_item_1, contacts);
        listView.setAdapter(adapter);
        registerForContextMenu(listView);
    }

    @Override
    public void onCreateContextMenu(ContextMenu menu, View v,
    ContextMenu.ContextMenuInfo menuInfo) {
        super.onCreateContextMenu(menu, v, menuInfo);
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.mainmenu, menu);
        menu.setHeaderTitle("Select The Action");
    }

    @Override
    public boolean onContextItemSelected(MenuItem item){
        if(item.getItemId()==R.id.call) {
            Toast.makeText(getApplicationContext(), "calling code",
            Toast.LENGTH_LONG).show();
        }

        else if(item.getItemId()==R.id.sms){
            Toast.makeText(getApplicationContext(), "sending sms
            code", Toast.LENGTH_LONG).show();
        }else{
```

```

        return false;
    }

    return true;
}
}

```

activity_main.xml:

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
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:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity"
tools:ignore="VisualLintBounds">
<ListView
    android:id="@+id/listView"
    android:layout_width="334dp"
    android:layout_height="441dp"
    android:layout_marginStart="8dp"
    android:layout_marginTop="132dp"
    android:layout_marginEnd="8dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.295"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

mainmenu.xml :

```

<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/call"
        android:title="@string/call" />
    <item android:id="@+id/sms"
        android:title="@string/sms" />
</menu>

```

strings.xml :

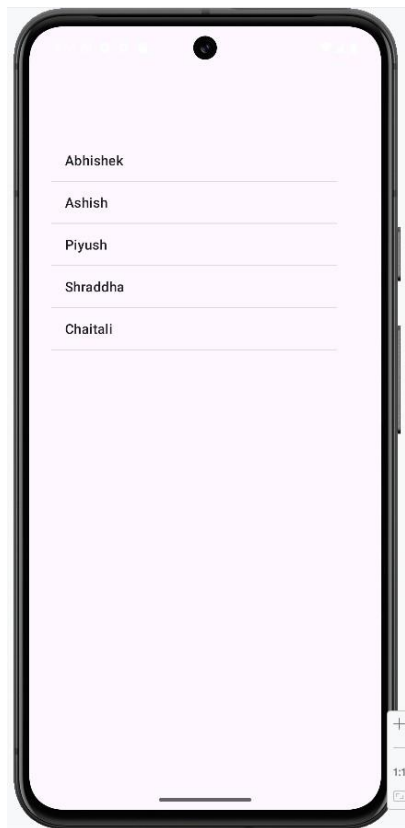
```

<resources>
    <string name="app_name">ContextMenu</string>
    <string name="call">Call</string>
    <string name="sms">SMS</string>
</resources>

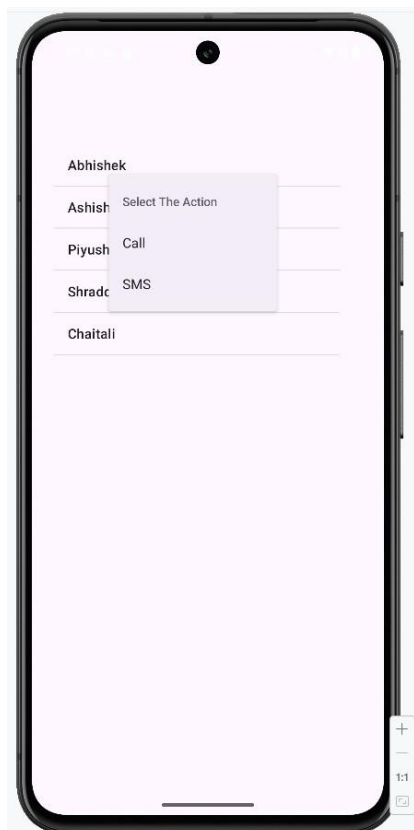
```


OUTPUT:

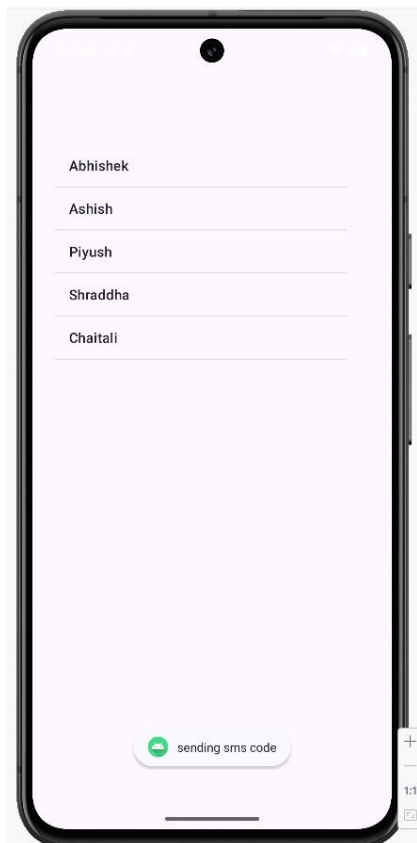
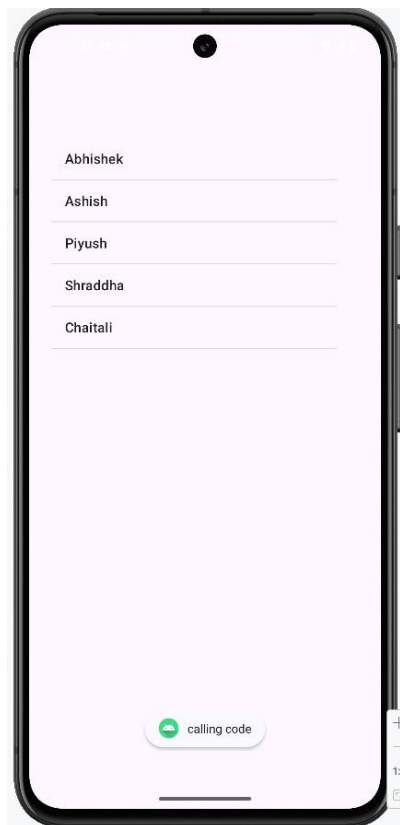
a] Homepage:



b] After clicking Context-Menu button:



c] After clicking one of the menu buttons:



Practical no:-11**Practical name:- Create an application to demonstrate progress bar.**

MainActivity.java:

```
package com.example.progress_bar;
import android.os.Bundle;
import android.app.ProgressDialog;
import android.os.Handler;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity
{
    Button btnStartProgress;
    ProgressDialog progressBar;
    private int progressBarStatus = 0;
    private Handler progressBarHandler = new Handler();
    private long fileSize = 0;
    @Override
    protected void onCreate(Bundle savedInstanceState)
    { super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    addListenerOnButtonClick();
    }

    public void addListenerOnButtonClick()
    { btnStartProgress = findViewById(R.id.button1);
    btnStartProgress.setOnClickListener(new View.OnClickListener()
    { @Override
    public void onClick(View v) {
    progressBar = new ProgressDialog(MainActivity.this);
    progressBar.setCancelable(true);
    progressBar.setMessage("File downloading. ....");
    progressBar.setProgressStyle(ProgressDialog.STYLE_HORIZONTAL);
    progressBar.setProgress(0);
    progressBar.setMax(100);
    progressBar.show();
    progressBarStatus = 0;
    fileSize = 0;

    new Thread(new Runnable() { @Override
    public void run() {
    while (progressBarStatus < 100)
    { progressBarStatus = doOperation();
    try {
```

```

Thread.sleep(1000);

} catch (InterruptedException e) { e.printStackTrace();
}

progressBarHandler.post(new Runnable()
{ @Override
public void run()
{ progressBar.setProgress(progressBarStatus);
}

});

}

if (progressBarStatus >= 100) { try {
Thread.sleep(1000);

} catch (InterruptedException e) { e.printStackTrace();
}

progressBar.dismiss();
}

}

}).start();
}

});

}public int doOperation() { if (fileSize < 10000) {

fileSize += 1000;

return (int) ((fileSize / 10000.0) * 100);

}

return 100;

}

}

```

activity_main.xml:

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout 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:id="@+id/main" android:layout_width="match_parent"
android:layout_height="match_parent" tools:context=".MainActivity">
<Button android:id="@+id/button1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_alignParentTop="true"
android:layout_centerHorizontal="true"

```

```
android:layout_marginTop="116dp"
android:text="@string/download_file"/>
</RelativeLayout>
```

strings.xml:

```
<resources>
<string name="app_name">Progress_Bar</string>
<string name="download_file">Download File</string>
</resources>
```

OUTPUT:-



a] Homepage:



b] After clicking the download button:

