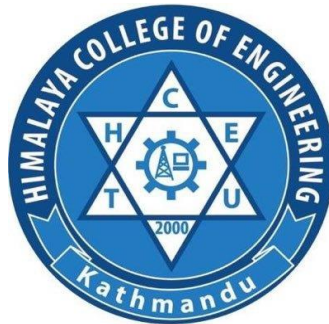




TRIBHUVAN UNIVERSITY

INSTITUTE OF HUMANITIES AND SOCIAL SCIENCE



HIMALAYA COLLEGE OF ENGINEERING

CHYASAL, LALITPUR



Lab Report: - Mobile Programming

LabNo:-01

Submitted by: -

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Date of submission: -2081/03/21

Objectives

- Create a “MainActivity” with a textbox and a submit button to capture user input and navigate to another activity.
- Implement a “GreetActivity” that receives the input from “MainActivity” and display a personalized message.

LabWork

1.Demonstrate the setup and installation of android project with java.

Install Android Studio and setup

1. Download Android studio from the official website
2. After the downloading has finish open the file form downloads and run it.
3. It will start the installation and once it is completed click on next.
4. Once finish is clicked, it will ask whether the previous settings need to be imported if the android studio had been install earlier or not. It better to choose the Do not import setting option. Click the Ok button.
5. This will start the Android Studio. After it has found the SDK components, it will redirect to the Welcome dialog box.
6. Click on Next.
7. Choose standard and click on next. Choose theme, whether you required Light or Dark. Click on Next.
8. It's time to download the SDK components. Click to Finish.
9. Click start new Android Studio project.
10. Select a project template. Choose “Empty Activity” and click next.
11. Configure your project.
 - i Name: Enter your project name.
 - ii Package name: This is your project unique identifier.
 - iii Save location: Choose your computer location where you save the project.
 - iv Language: Java
 - v Minimum SDK: Choose the minimum Android version you want your app to support.
 - vi Build configuration language: Choose groovy

vii Click Finish

2. Develop an android application that prints “Hello World” and the bottom of the page.

```
<?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"
    tools:context=".MainActivity"
    android:orientation="vertical"
    android:gravity="bottom|center_horizontal">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World"/>
</LinearLayout>
```

```
package com.example.diwash;
import ...
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;
        });
    }
}
```

3. Develop an android application with two activity, MainActivity and GreetActivity. MainActivity should contain a textbox and button with label "submit". When click on submit greetactivity should open with the message "hello{name}" where name is submitted from mainactivity.

```
</> activity_main.xml ×
1  <?xml version="1.0" encoding="utf-8"?>
2  © <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:app="http://schemas.android.com/apk/res-auto"
4     xmlns:tools="http://schemas.android.com/tools"
5     android:id="@+id/main"
6     android:layout_width="match_parent"
7     android:layout_height="match_parent"
8     tools:context=".MainActivity"
9     android:orientation="vertical"
10    android:gravity="center_horizontal|center_vertical">
11    <EditText
12        android:layout_width="wrap_content"
13        android:layout_height="wrap_content"
14        android:hint="Enter your Name"
15        android:inputType="text"
16        android:id="@+id/your_name"
17        android:textSize="20dp" />
18    <Button
19        android:layout_width="wrap_content"
20        android:layout_height="wrap_content"
21        android:text="Submit"
22        android:id="@+id/submit_btn"
23        android:textSize="16dp"/>
24    </LinearLayout>
```

```
</> strings.xml ×
i Edit translations for all locales in the translations editor.
1  <resources>
2      <string name="app_name">Diwash</string>
3      ⚡ <string name="submit_btn">Submit</string>
4  </resources>
```

MainActivity.java

```
1 package com.example.diwash;
2 import android.content.Intent;
3 import android.os.Bundle;
4 import android.view.View;
5 import android.widget.Button;
6 import android.widget.EditText;
7 import androidx.activity.EdgeToEdge;
8 import androidx.appcompat.app.AppCompatActivity;
9 import androidx.core.graphics.Insets;
10 import androidx.core.view.ViewCompat;
11 import androidx.core.view.WindowInsetsCompat;
12 public class MainActivity extends AppCompatActivity {
13     private Button Submit; 2 usages
14     private EditText Name; 2 usages
15     @Override
16     protected void onCreate(Bundle savedInstanceState) {
17         super.onCreate(savedInstanceState);
18         EdgeToEdge.enable(this);
19         setContentView(R.layout.activity_main);
20         Name= findViewById(R.id.your_name);
21         Submit = findViewById(R.id.submit_btn);
22         Submit.setOnClickListener(new View.OnClickListener() {
23             @Override
24             public void onClick(View v) {
25                 String name =Name.getText().toString();
26                 Intent l = new Intent( packageContext: MainActivity.this,greet.class);
27                 l.putExtra( name: "Name",name);
```

```
startActivity(l);
    }
});
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_greet.xml x
1  <?xml version="1.0" encoding="utf-8"?>
2  © <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3      xmlns:app="http://schemas.android.com/apk/res-auto"
4      xmlns:tools="http://schemas.android.com/tools"
5      android:id="@+id/main"
6      android:layout_width="match_parent"
7      android:layout_height="match_parent"
8      tools:context=".greet"
9      android:gravity="center_horizontal|center_vertical">
10     <TextView
11         android:layout_width="wrap_content"
12         android:layout_height="wrap_content"
13         android:text=""
14         android:id="@+id/print_name"
15         android:textSize="18dp"/>
16 </LinearLayout>
17
```

```
greet.java x
1  package com.example.diwash;
2
3  import android.os.Bundle;
4  import android.widget.TextView;
5  import androidx.activity.EdgeToEdge;
6  import androidx.appcompat.app.AppCompatActivity;
7  import androidx.core.graphics.Insets;
8  import androidx.core.view.ViewCompat;
9  import androidx.core.view.WindowInsetsCompat;
10
11  <> public class greet extends AppCompatActivity {
12      private TextView textViewa; 2 usages
13      @Override
14      © protected void onCreate(Bundle savedInstanceState) {
15          super.onCreate(savedInstanceState);
16          EdgeToEdge.enable( $this$enableEdgeToEdge: this);
17          setContentView(R.layout.activity_greet);
18          textViewa = findViewById(R.id.print_name);
19          String name = getIntent().getStringExtra( name: "Name");
20          textViewa.setText("hello "+name);
21          ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main), (v, insets) -> {
22              Insets systemBars = insets.getInsets(WindowInsetsCompat.Type.systemBars());
23              v.setPadding(systemBars.left, systemBars.top, systemBars.right, systemBars.bottom);
24              return insets;
25          });
26      }
27  }
```

Output

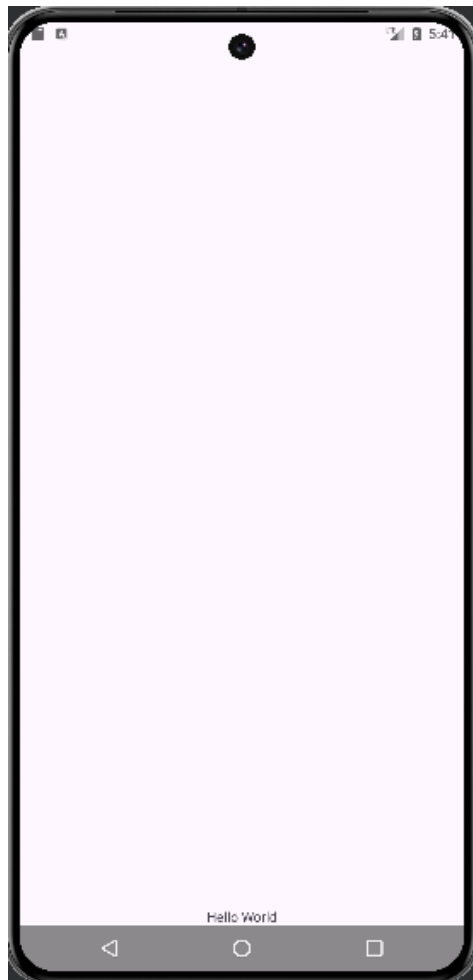


Figure1.helloWorld

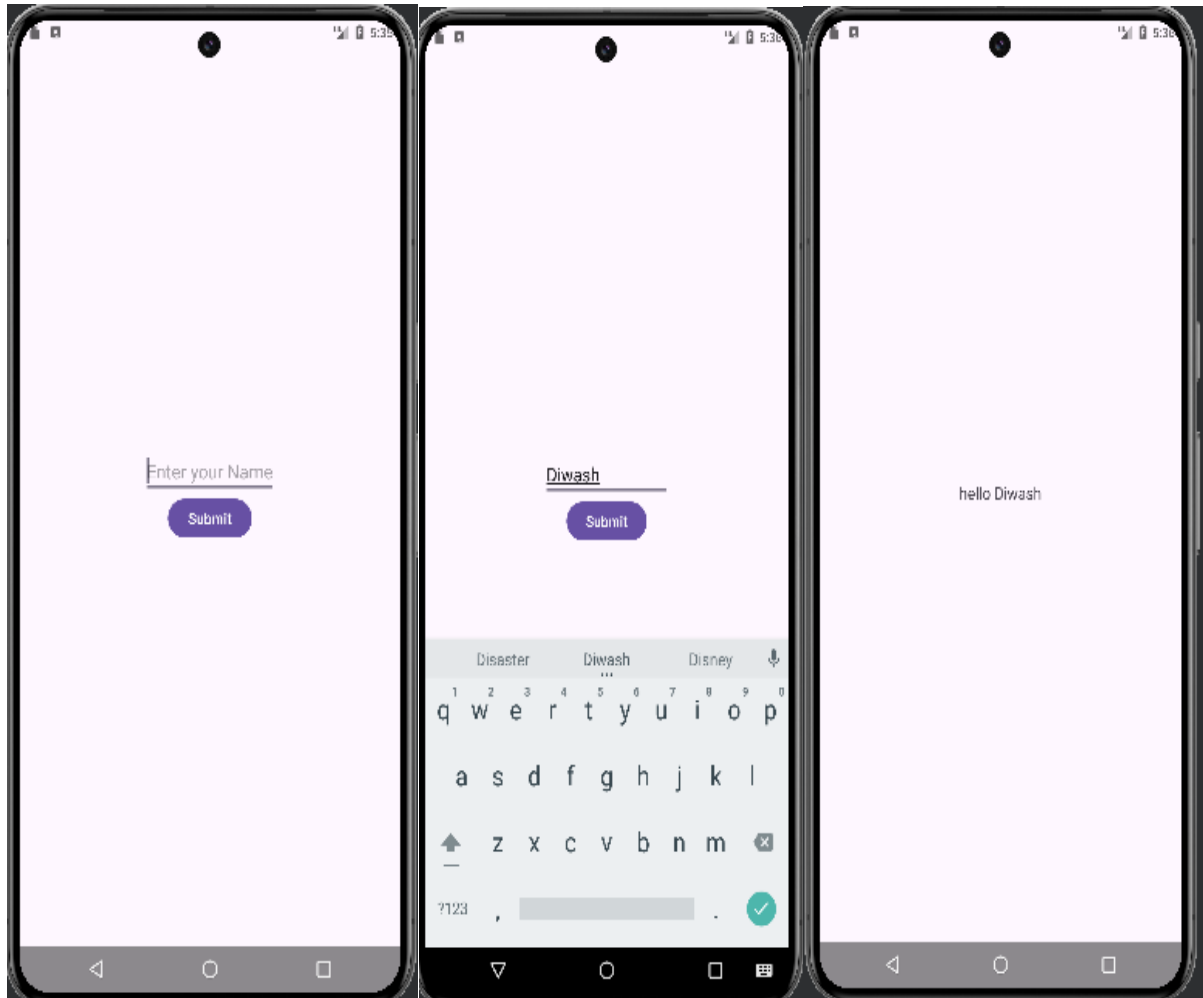


Figure2.hello{name}

Conclusion

Hence, I have successfully set up an Android project with Java in Android Studio, created a basic 'Hello World' application, and developed a more complex application with two activities that interact to capture user input and display a message. These fundamental skills lay the groundwork for building more complex and feature-rich Android applications using Java.