

Practicals

1. Design Login activity and implement control events : Use EditText, Checkbox and Buttons
2. Implement Practical 1 using following layouts:
 - Linear Layout
 - Relative Layout
 - Table Layout
3. Create Activities & implement following
 - Implicit intent
 - Explicit Intent
 - StartActivityForResult
4. Implement activity Lifecycle and State Callbacks
5. Practical : Use an Options Menu
6. Create a Recycler View and list the details of student using following fields:
 - Name
 - Address
 - Photo (Image)
 - Delete (Button Operation)
7. Practical: Theme, Custom Styles, Drawables
8. Practical: Save user data in a database
9. Use an AsyncTask to access remote database (make a use of simple PHP Web service)
10. Use Retrofit to access remote database (make a use of simple PHP Web service)
11. Practical : Use Firebase to perform CRUD operation
12. Practical: BroadcastReceiver
13. Practical: Notifications
14. Practical: Get and Save User Preferences
15. Practical : make a use of android system
16. Using location service get the current location and display in TextView
17. Practical : Display the use of animations

Practical-1

Aim: Design Login activity and implement control events: Use EditText, Checkbox and Buttons

Mainactivity.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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center">

        <androidx.appcompat.widget.AppCompatImageView
            android:id="@+id/androidImg"
            android:layout_width="100dp"
            android:layout_height="100dp"
            android:src="@drawable/android"
            android:layout_centerHorizontal="true">

        </androidx.appcompat.widget.AppCompatImageView>
        <com.google.android.material.textfield.TextInputLayout
            android:layout_below="@+id/androidImg"
            android:id="@+id/textInputLayoutEmail"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginBottom="5dp"
            android:layout_marginLeft="30dp"
            android:layout_marginRight="30dp"
            android:hint="Enter Username">

        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/textInputEditTextName"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:background="@color/white"
            android:layout_marginLeft="-10dp"/>
```

```
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/textInputLayoutPassword"
    android:layout_below="@+id/textInputLayoutEmail"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="30dp"
    android:layout_marginRight="30dp"
    android:layout_marginTop="10dp"
    android:hint="Enter Password">
```

```
<com.google.android.material.textfield.TextInputEditText
    android:id="@+id/textInputEditTextPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="textPassword"
    android:background="@color/white"
    android:layout_marginLeft="-10dp"/>
```

```
</com.google.android.material.textfield.TextInputLayout>
```

```
<LinearLayout
```

```
    android:id="@+id/keepmesignin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textInputLayoutPassword">
```

```
<androidx.appcompat.widget.AppCompatCheckBox
```

```
    android:id="@+id/checkbox"
    android:layout_width="30dp"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textInputLayoutPassword"
    android:layout_marginLeft="40dp">
```

```
</androidx.appcompat.widget.AppCompatCheckBox>
```

```
<androidx.appcompat.widget.AppCompatTextView
```

```
    android:layout_below="@id/textInputLayoutPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_toRightOf="@+id/checkbox"
    android:layout_marginLeft="5dp"
    android:text="Keep me Signed in">
```

```
</androidx.appcompat.widget.AppCompatTextView>
```

```
</LinearLayout>
```

```
<RelativeLayout
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/keepmesignin"
```

```

        android:gravity="center">
        <androidx.appcompat.widget.AppCompatButton
        android:id="@+id/Button"
        android:layout_width="100dp"
        android:layout_height="wrap_content"
        android:background="#FF9933"
        android:text="Log In">

        </androidx.appcompat.widget.AppCompatButton>
    </RelativeLayout>

</RelativeLayout>

</RelativeLayout>

```

mainActivity.java

```

package com.app.login;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.AppCompatButton;

import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.View;
import android.widget.Toast;

import com.google.android.material.textfield.TextInputEditText;

public class MainActivity extends AppCompatActivity {
    TextInputEditText textInputEditTextName, textInputEditTextPassword;
    AppCompatButton button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        textInputEditTextName = (TextInputEditText) findViewById(R.id.textInputEditTextName);
        textInputEditTextPassword = (TextInputEditText)
            findViewById(R.id.textInputEditTextPassword);
        button = (AppCompatButton) findViewById(R.id.Button);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

                if(textInputEditTextName.getText().toString().trim().length() == 0){

```

```

textInputEditTextName.setError("Username is not entered");
textInputEditTextName.requestFocus();
}
if(textInputEditTextPassword.getText().toString().trim().length()==0){
textInputEditTextPassword.setError("Password is not entered");
textInputEditTextPassword.requestFocus();
}
else{
Toast.makeText(MainActivity.this, "Login Success", Toast.LENGTH_SHORT).show();
Intent it=new Intent(getApplicationContext(), afterLoginActivity.class);
startActivity(it);
}
}
});
}

public boolean onCreateOptionsMenu(Menu menu) {
// Inflate the menu; this adds items to the action bar if it is present.
getMenuInflater().inflate(R.menu.main, menu);
return true;
}
}
}

```

Afterlogin.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent" android:layout_height="match_parent">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center">

        <androidx.appcompat.widget.AppCompatImageView
            android:id="@+id/androidImg"
            android:layout_width="200dp"

```

```

android:layout_height="200dp"
android:src="@drawable/android"
android:layout_centerHorizontal="true">

</androidx.appcompat.widget.AppCompatImageView>
<TextView
android:layout_below="@+id/androidImg"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Practical 1"
android:gravity="center"
android:textColor="@color/black"
android:textSize="40dp">

</TextView>
</RelativeLayout>

</RelativeLayout>

```

afterLoginActivity.java

```

package com.app.login;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.AppCompatButton;

import com.google.android.material.textfield.TextInputEditText;

public class afterLoginActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.afterlogin);

    }
}

```

Output:



Login

Login



Enter Username

Enter Password
.....

☒ Keep me Signed in

LOG IN

Username is not entered



Practical 1

Login Success

Practical-2

Aim: Design Login activity and implement control events: Use EditText, Checkbox and Buttons

Mainactivity.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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:gravity="center">

        <androidx.appcompat.widget.AppCompatImageView
            android:id="@+id/androidImg"
            android:layout_width="100dp"
            android:layout_height="100dp"
            android:src="@drawable/android"
            android:layout_centerHorizontal="true">

        </androidx.appcompat.widget.AppCompatImageView>
        <com.google.android.material.textfield.TextInputLayout
            android:layout_below="@+id/androidImg"
            android:id="@+id/textInputLayoutEmail"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginBottom="5dp"
            android:layout_marginLeft="30dp"
            android:layout_marginRight="30dp"
            android:hint="Enter Username">

        <com.google.android.material.textfield.TextInputEditText
            android:id="@+id/textInputEditTextName"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:background="@color/white"
            android:layout_marginLeft="-10dp"/>
```



```
</com.google.android.material.textfield.TextInputLayout>
<com.google.android.material.textfield.TextInputLayout
    android:id="@+id/textInputLayoutPassword"
    android:layout_below="@+id/textInputLayoutEmail"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginLeft="30dp"
    android:layout_marginRight="30dp"
    android:layout_marginTop="10dp"
    android:hint="Enter Password">
```

```
<com.google.android.material.textfield.TextInputEditText
    android:id="@+id/textInputEditTextPassword"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:inputType="textPassword"
    android:background="@color/white"
    android:layout_marginLeft="-10dp"/>
</com.google.android.material.textfield.TextInputLayout>
```

```
<LinearLayout
    android:id="@+id/keepmesignin"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/textInputLayoutPassword">
    <androidx.appcompat.widget.AppCompatCheckBox
        android:id="@+id/checkbox"
        android:layout_width="30dp"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textInputLayoutPassword"
        android:layout_marginLeft="40dp">
```

```
</androidx.appcompat.widget.AppCompatCheckBox>
    <androidx.appcompat.widget.AppCompatTextView
        android:layout_below="@+id/textInputLayoutPassword"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_toRightOf="@+id/checkbox"
        android:layout_marginLeft="5dp"
        android:text="Keep me Signed in">
```

```
</androidx.appcompat.widget.AppCompatTextView>
</LinearLayout>
<RelativeLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
```

```

android:layout_below="@id/keepmesignin"
android:gravity="center">
<androidx.appcompat.widget.AppCompatButton
android:id="@+id/Button"
android:layout_width="100dp"
android:layout_height="wrap_content"
android:background="#FF9933"
android:text="LOg In">

</androidx.appcompat.widget.AppCompatButton>
</RelativeLayout>

</RelativeLayout>

</RelativeLayout>

```

mainActivity.java

```

package com.app.login;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.AppCompatButton;

import android.content.Intent;
import android.os.Bundle;
import android.view.Menu;
import android.view.View;
import android.widget.Toast;

import com.google.android.material.textfield.TextInputEditText;

public class MainActivity extends AppCompatActivity {
    TextInputEditTexttextInputEditTextName,textInputEditTextPassword;
    AppCompatButtonbutton;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        textInputEditTextName= (TextInputEditText) findViewById(R.id.textInputEditTextName);
        textInputEditTextPassword= (TextInputEditText)
        findViewById(R.id.textInputEditTextPassword);
        button = (AppCompatButton) findViewById(R.id.Button);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {

```

```

if(textInputEditTextName.getText().toString().trim().length()==0){
textInputEditTextName.setError("Username is not entered");
textInputEditTextName.requestFocus();
}
if(textInputEditTextPassword.getText().toString().trim().length()==0){
textInputEditTextPassword.setError("Password is not entered");
textInputEditTextPassword.requestFocus();
}
else{
Toast.makeText(MainActivity.this, "Login Success", Toast.LENGTH_SHORT).show();
Intent it=new Intent(getApplicationContext(), afterLoginActivity.class);
startActivity(it);
}
}
});
}

public boolean onCreateOptionsMenu(Menu menu) {
// Inflate the menu; this adds items to the action bar if it is present.
getMenuInflater().inflate(R.menu.main, menu);
return true;
}
}

```

Afterlogin.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
android:layout_width="match_parent" android:layout_height="match_parent">

<RelativeLayout
android:layout_width="match_parent"
android:layout_height="match_parent"
android:gravity="center">

<androidx.appcompat.widget.AppCompatImageView

```

```

android:id="@+id/androidImg"
android:layout_width="200dp"
android:layout_height="200dp"
android:src="@drawable/android"
android:layout_centerHorizontal="true">

</androidx.appcompat.widget.AppCompatImageView>
<TextView
android:layout_below="@+id/androidImg"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Practical 1"
android:gravity="center"
android:textColor="@color/black"
android:textSize="40dp">

</TextView>
</RelativeLayout>

</RelativeLayout>

```

afterLoginActivity.java

```

package com.app.login;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;

import androidx.appcompat.app.AppCompatActivity;
import androidx.appcompat.widget.AppCompatButton;

import com.google.android.material.textfield.TextInputEditText;

public class afterLoginActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.afterlogin);

    }
}

```

Output:



Login

Login



Enter Username

Enter Password
.....

☒ Keep me Signed in

LOG IN

Username is not entered



Practical 1

Login Success