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ICP 8 Report: Create a basic login application using Android

i.   Introduction.

In this ICP we had to create a basic login application using android programming language (XML). To do so we needed android studio, and Java programming to add behavior to our application. We built a basic UI just using XML basics tags, displaying Username, password, and a login button. Then, we proceeded to do some research on how to do the input validation using Java.

ii.   Description.

Using what we learnt in class we were able to easily create an UI with XML in android, we used the following tags: Relativelayout, textView, editText, and button to display our features. It was relatively basic UI which included user name, password, and a log in button. Although, it is a basic UI it is very user-friendly, so that it is easier to get the user to make an input. For the java side, in the log in page we created variables that return the values of the text inputs and buttons and set a listener on the button to trigger a function, this function will start a new activity when the correct credentials are inputted and display the new activity. For login out the same implementation was used except credentials were not needed.

iii.   Code snippet.

XML

```xml
<TextView
    android:id="@+id/login"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="20dp"
    android:gravity="center"
    android:padding="20dp"
    android:text="Sign In!"
    android:textSize="40sp" />

<EditText
    android:id="@+id/username"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/login"
    android:layout_margin="20dp"
    android:hint="Username"
    android:inputType="text"
    android:padding="20dp" />

<EditText
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/username"
    android:layout_margin="20dp"
    android:hint="Password"
    android:inputType="textPassword"
    android:padding="20dp" />

<Button
    android:id="@+id/btn"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@id/password"
    android:layout_margin="20dp"
    android:padding="15dp"
    android:text="login" />
```

JAVA

```java
EditText username;
EditText password;
Button btn;

username = findViewById(R.id.username);
password = findViewById(R.id.password);
btn = findViewById(R.id.btn);

btn.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v){
        if(username.getText().toString().equals("user") && password.getText().toString().equals("password")){
            Intent intent = new Intent( packageContext: MainActivity.this, MainActivity_2.class);
            startActivity(intent);
            Toast.makeText( context: MainActivity.this,  text: "Welcome, User!", Toast.LENGTH_SHORT).show();
        } else {
            Toast.makeText( context: MainActivity.this,  text: "Incorrect username or password", Toast.LENGTH_SHORT).show();
        }
    }
});
```