

TOPICS IN SOFTWARE ENGINEERING

ASSIGNMENT 1



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# **Question: 1**

Explore your project and find all options discussed in lecture 2 from Chapter 2. You need to prepare a google doc that highlights the potential issue  that your code has. You may identify these issues with the help of

1. **Identify deprecated technology or APIs. Just report the diagram.**

* In this application the APIs used which are made in web application framework SLIM which is PHP micro framework. This is not we known framework for APIs.
* Also use lower version of java and xml which is not deprecated some methods. And which may cause issue in future.

1. **Potential issues missing in the documentation but available in the code**

Code is missing some important files due to that we cannot run the Application.  
So, without running application we cannot figure out which FRs are implemented, or which are not.

1. **Missing of technical documentation (if applicable)**

Code is missing some important files due to that we cannot run the Application.  
So, without running application we cannot figure out which FRs are implemented, or which are not.

# **Question: 2**

Use PMD to help identify potential coding errors and customize the rules you use to make sure only pertinent rules are applied to your source code.

**File on which we apply PMD**: *SmartRestaurant/app/src/main/java/wasif/fyp/smartrestaurant/IntroLocationActivity.java*

**IDE used:** *IntelliJ Idea*

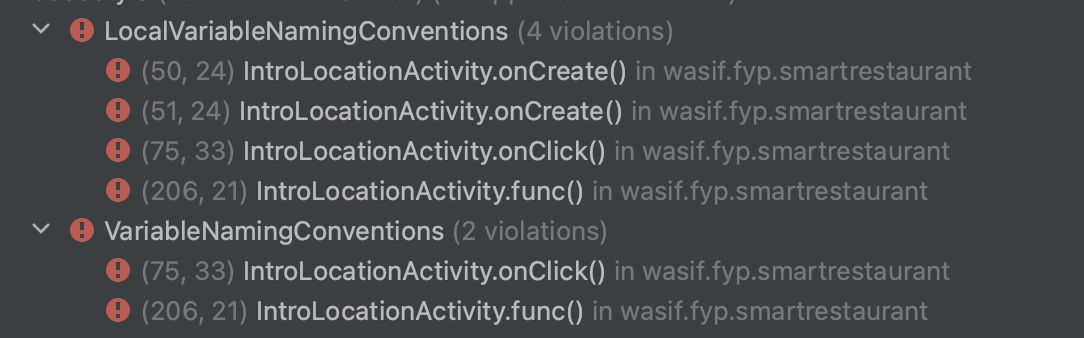
1. **Create & view code issues directly from your editor:**

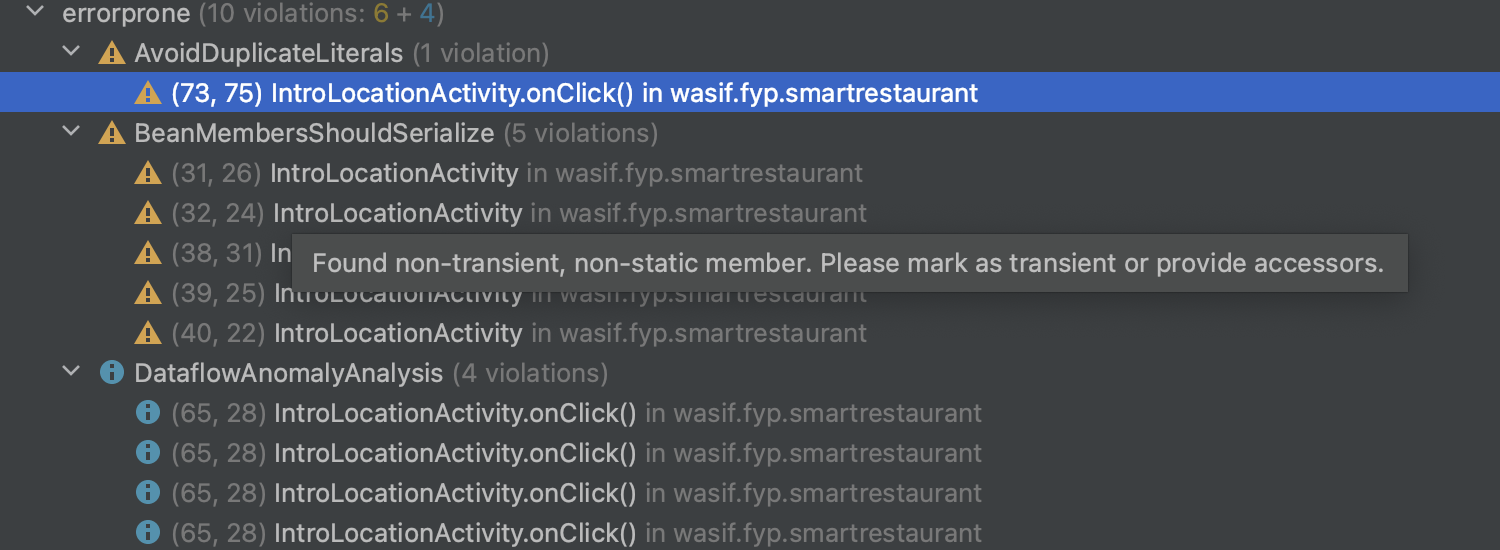
Code issue after Appling PMD:

**Text

Description automatically generated**

1. **Track & prioritize code improvements like technical debt**

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1. **Check your code quality**

Code quality is not much bad because there is no critical error on this file.

1. **Apply at least 3 PMD rules with the help of tool**
2. VariableNamingConventions at line 40

Solution change to:

private EditText password; // at line 40

password = findViewById(R.id.password); // at line 53

1. LoginModel class must have AtLeastOneConstructor
2. AvoidDuplicateLiterals violation at line 73, 74,75

You can see our changing on GitHub:

[*https://github.com/Abdul-Majid10/Learners/commit/7aca035a906e79e6c36a1170dda1026a615bf8cf*](https://github.com/Abdul-Majid10/Learners/commit/7aca035a906e79e6c36a1170dda1026a615bf8cf)

1. Generate the Abstract Syntax Tree of your source code suing PMD.

File is Generated you can see on GitHub:

[*https://github.com/Abdul-Majid10/Learners/blob/main/SmartRestaurant/app/src/main/java/wasif/fyp/smartrestaurant/IntroLocationActivity.ast*](https://github.com/Abdul-Majid10/Learners/blob/main/SmartRestaurant/app/src/main/java/wasif/fyp/smartrestaurant/IntroLocationActivity.ast)

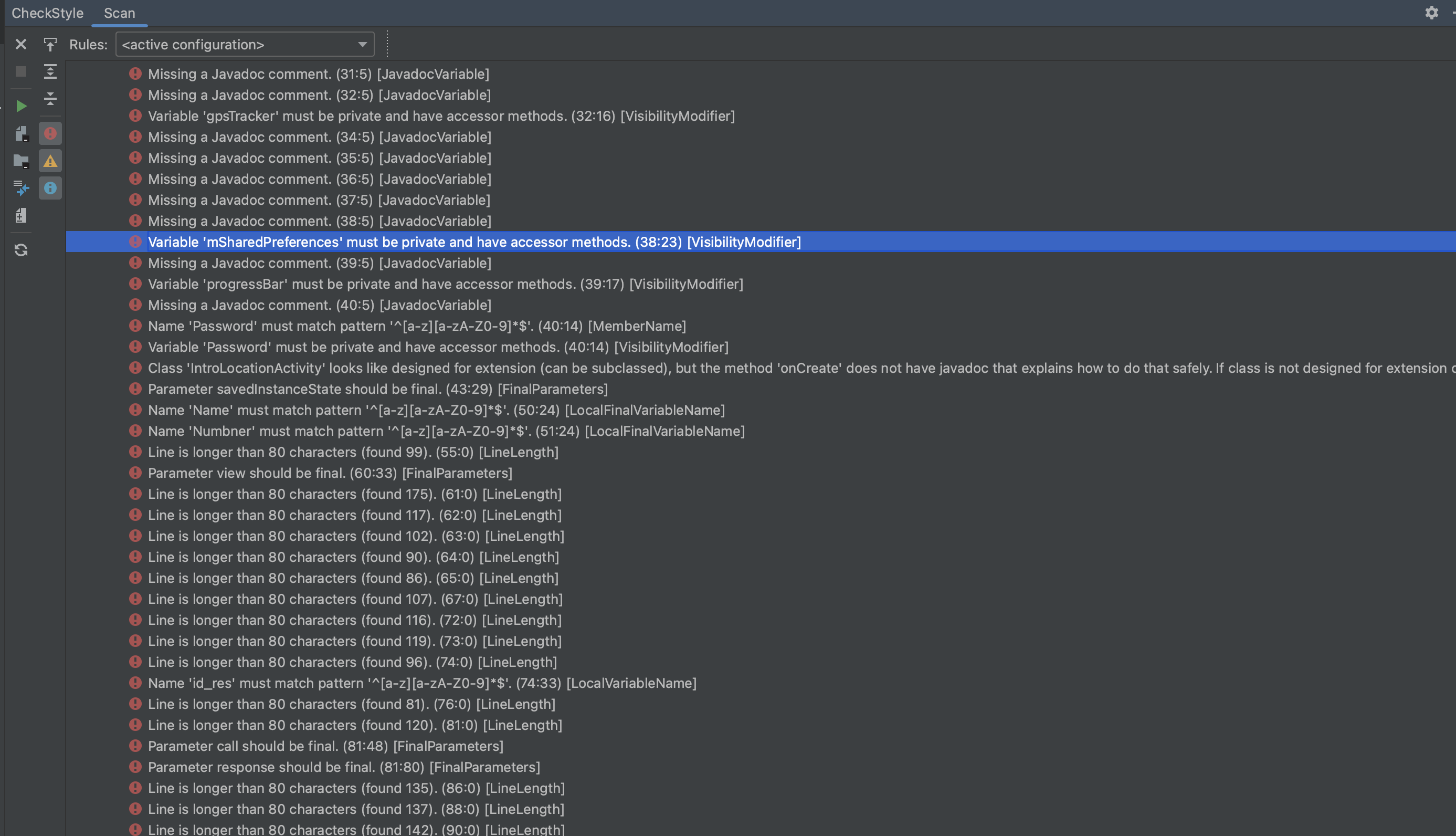
# **Question: 3**

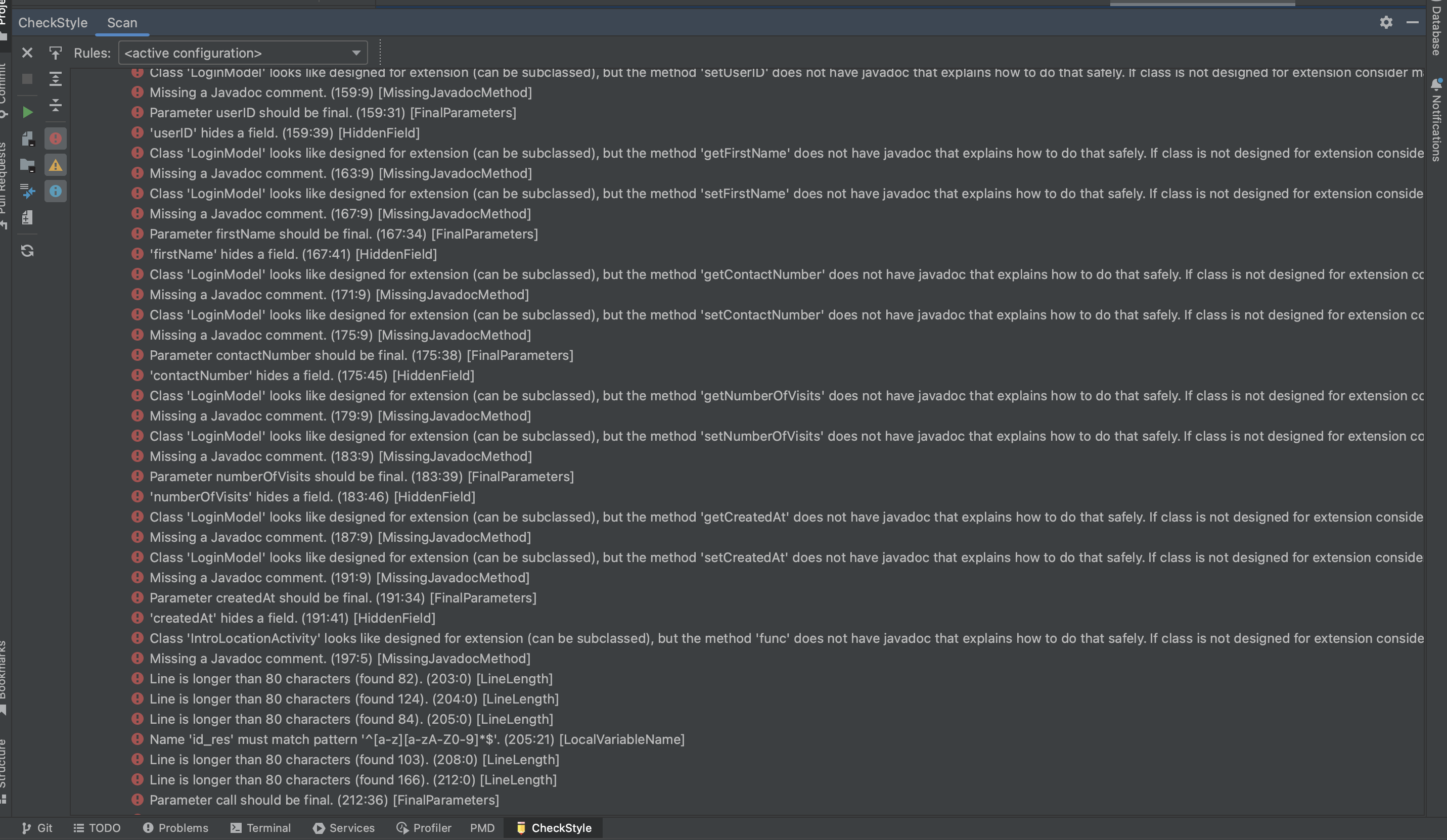
Use the Check Style tool to review your code. At least apply 2 rules on your code using CheckStyle

**File on which we apply Check Style**: *SmartRestaurant/app/src/main/java/wasif/fyp/smartrestaurant/IntroLocationActivity.java*

**IDE used:** *IntelliJ Idea*

After scan we got style issues:

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**Rules applied**:

* 1 - Variable 'gpsTracker' must be private and have accessor methods. (32:16) [**VisibilityModifier]**

**Changed to:**

private GPSTracker gpsTracker;

* Line is longer than 80 characters (found 99). (55:0) [**LineLength**]

**Changed to:**

MSharedPreferences = getSharedPreferences(SignInActivity.PREFERENCE,  
 Context.MODE\_PRIVATE);

* Parameter firstName should be final. (167:34) [**FinalParameters**]

**Changed to:**

public void setFirstName(final String firstName) {  
 this.firstName = firstName;  
}

Changing commit link*:*

[*https://github.com/Abdul-Majid10/Learners/commit/e5a82c948d40c7d59cd791d6ea395f83fdb7b273*](https://github.com/Abdul-Majid10/Learners/commit/e5a82c948d40c7d59cd791d6ea395f83fdb7b273)