**Quality Assurance Report for Group 23 B Doctor’s Interface:**

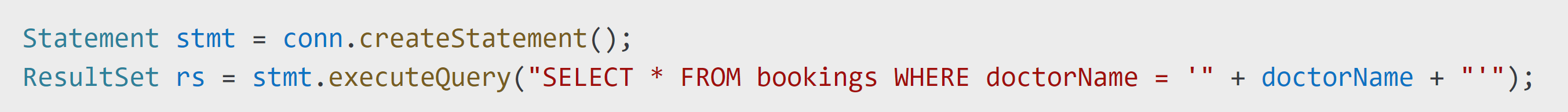
Our team conducted basic code reviews to ensure consistency, functionality, and adherence to coding standards within our project. Code reviews were primarily carried out informally via group discussions, version control commits, and group meetings which took place on a regular basis. We also created and maintained a discipline of reviewing each other’s code after they have pushed it to Gitlab, to ensure the functionality works as expected and any bugs are resolved immediately to ensure all deliverables are completed on time.

**Code Reviews:**

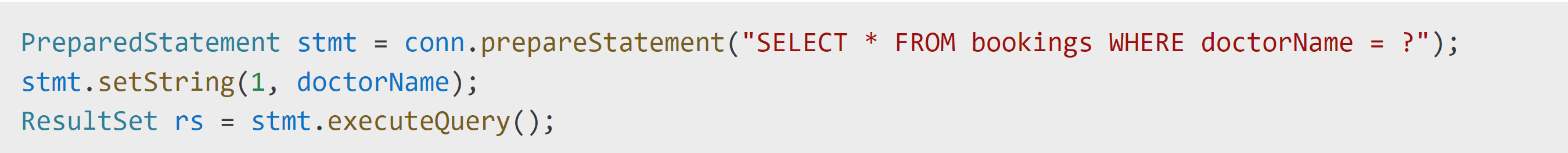
Code Review Example 1:

* Issue**:** Inefficient SQL query affecting database performance.
* Suggested Fix: Use prepared statements to prevent SQL injection and optimize database queries.
* Implementation: Refactored SQL queries using parameterized statements.

Before Review:



After Review:



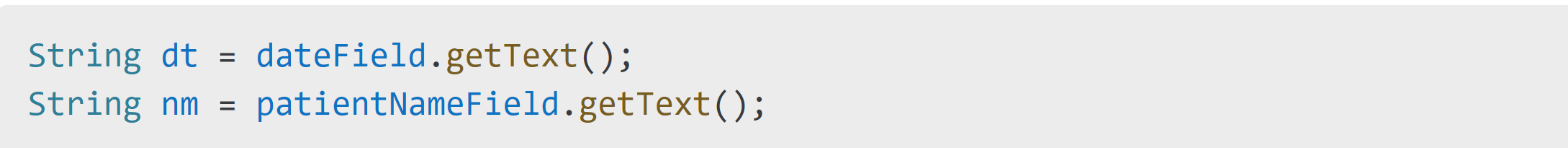
This change improved security by preventing SQL injection and increased efficiency by allowing query reuse.

Code Review Example 2

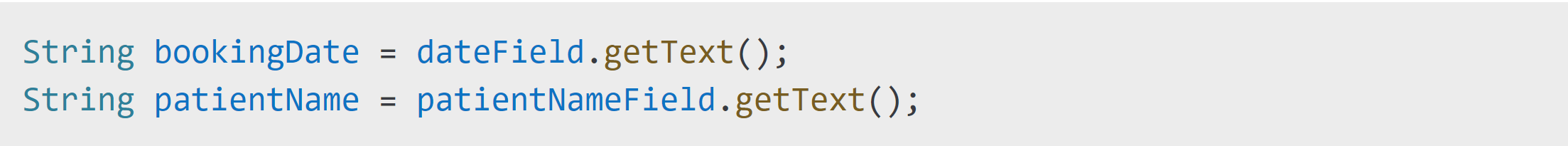
Additionally, variable naming conventions and indentation were standardized during reviews to improve code readability and maintainability.

* **Issue:** Poor readability due to inconsistent naming conventions.
* **Suggested Fix:** Renamed variables to follow the standard naming conventions and provide clarity.

Before Review:



After Review:



This helped improve the maintainability and readability of the code, which enables any member of the team to go in and easily adjust the code when necessary.

These are some basic level examples of how we carried out code reviews to ensure code efficiency and correctness. During reviews, we also ensured that function names were descriptive and self-explanatory, making it easier to collaborate. The method comments were also added when raising issues to other members, effectively guiding them where the bug is located. There are more complex reviews that dynamically changed the overall functionality of our interface.

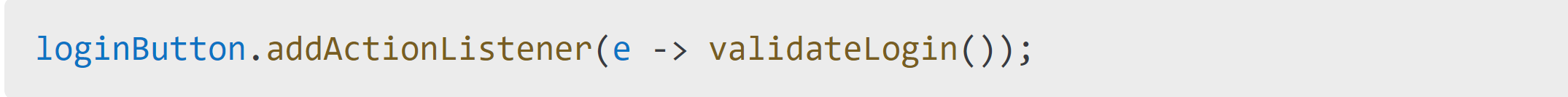
**Issue Tracking:**

We tracked issues manually using our team chat, where we recorded bugs, issues, pending feature development and pending fixes of bugs and issues in the software. Additionally, some issues were also noted in the Git commit messages which helped us to track changes over time and prevent any bugs that were left unattended. This process is organising tasks and allocating them to each member of the team ensuring we delivered work in a timely manner.

Issue Tracking Example 1:

* **Bug: Login button not responding.**
* **Description:** Clicking the login button did not trigger authentication.
* **Fix:** Event listener updated to correctly reference the actionPerformed method.

Bug:



After raising attention to the bug:

A screen shot of a computer

AI-generated content may be incorrect.

As the missing code for Action Listener, it prevented the LoginButton to work, and as a result we were unable to login to the interface.

A screen shot of a computer code

AI-generated content may be incorrect.Issue Tracking Example 2 using Junit Tests:

We implemented basic Junit tests to verify the correctness of the functionalities in our interface.

This ensured that key components, such as booking creation and login validation, functioned as expected. The testing was implemented into our process of development intended to catch potential issues in the development.

Junit Testing Example 3:

A screen shot of a computer code

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To further test what extent can our software bear the invalidities of data, we decided to test by provided an invalid input to see if the software will detect an non-existent input which can further cause errors and issues if the software fails this test.

By implementing basic code reviews, issue tracking, issue tracking processes and JUnit testing, we maintained a high level of quality assurance within this project. These practices helped us identify and resolve issues efficiently in the program, ensuring a smoother development process, enabling us to fulfil our deliverables in a timely manner.