

Case: Hospital Appointment Scheduling

Objective

As part of your interview process, we ask you to complete a coding exercise to evaluate your **coding skills** in terms of **correctness, performance, maintainability, extensibility, and security**. This exercise will also serve as a basis for discussion during your interview.

Background

The hospital is planning to expand its operations by **adding more departments** and introducing **advanced booking rules**. However, the current implementation has significant technical debt, making it **difficult to maintain** and extend. Specifically, adding new departments or department-specific rules requires changes to the core service, which **increases complexity**, reduces **maintainability**, and slows down development. A more flexible and modular approach is required to ensure the system can easily adapt to future growth and evolving requirements without extensive rework.

Task

Your goal is to enhance the existing codebase to address the following requirements:

- Redesign the current implementation to ensure that new departments and their specific validations (e.g., **RequiresReferral**, **RequiresInsuranceApproval**) can be added **without modifying** the core **AppointmentService** logic.

Notes

- You should spend no more than a few hours on this task. Focus on demonstrating your understanding of clean code and extensible design.
- Use appropriate tools and frameworks to streamline the development process and focus on the core requirements.
- This is a conceptual exercise. Do not spend time on unit testing or implementing placeholder methods (e.g., **IsAssignedToGP**, **IsValidReferral**). These methods are provided as examples and do not need to be fully implemented.
- Follow proper coding practices to showcase your understanding of maintainable and modular code structure.
- Ensure that your solution can be built and run without modification by the evaluators. Provide clear instructions if any setup is required.

Submission

Add the code to a **Git repository** and send the link to **Steven.Koxlien@getinge.com** and **Jesper.Smith@getinge.com**.