

Requirements for the Parking Lot Design

Learn about all requirements of the parking lot problem.

We'll cover the following

- Requirements collection

In this lesson, let’s list down the requirements of the parking lot system. This is a very crucial step since requirements define the scope of a problem, so getting them right from the interviewer and understanding them well will make the design of the rest of the system smooth and easy.

We’ll use the notational convention to identify each requirement with a unique label "Rn", where "R" is short for Requirement and "n" is a natural number.

Requirements collection

Let’s define the requirements for the parking lot problem:

R1: The parking lot should have the capacity to park 40,000 vehicles.

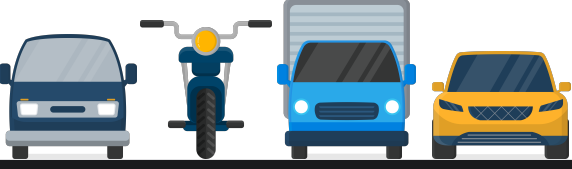
R2: The four different types of parking spots are handicapped, compact, large, and motorcycle.

R3: The parking lot should have multiple entrance and exit points.



R4: Four types of vehicles should be allowed to park in the parking lot, which are as follows:

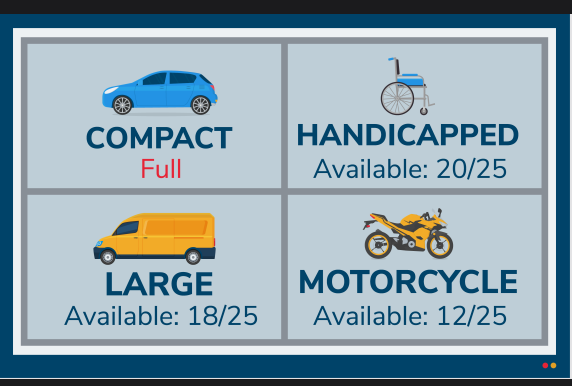
- Car
- Truck
- Van
- Motorcycle



R5: The parking lot should have a display board that shows free parking spots for each parking spot type.

R6: The system should not allow more vehicles in the parking lot if the maximum capacity (40,000) is reached.

R7: If the parking lot is completely occupied, the system should show a message on the entrance and on the parking lot display board.

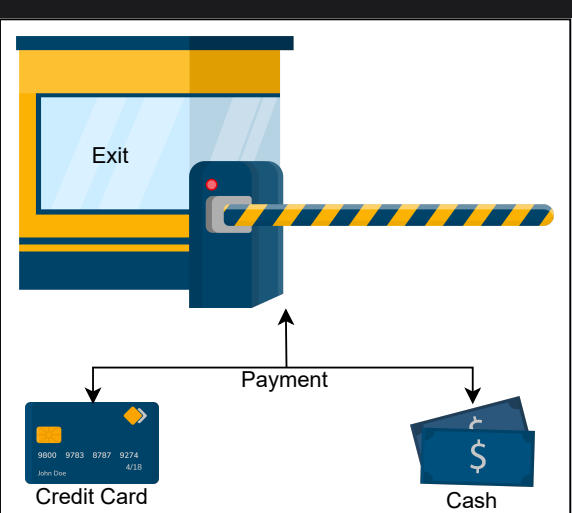


R8: Customers should be able to collect a parking ticket from the entrance and pay at the exit.

R9: The customer can pay for the ticket either with an automated exit panel or pay the parking agent at the exit.

R10: The payment should be calculated at an hourly rate.

R11: Payment can be made using either a credit/debit card or cash.



We’ve identified our requirements for the problem. Next, we will define different use cases of our parking lot system.

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Getting Ready: Parking Lot

Use Case Diagram for the Parking Lot