

Parking Lot Management Application - Line-by-Line Explanation

Main.java

Main.java:

- Sets up the entry point of the application.
- Uses Scanner to read user input in a loop.
- Creates ParkingLot instance with fixed slots.
- Parses input to create vehicles or exit them.
- Commands supported: enter, exit, status, quit.

ParkingLot.java

ParkingLot.java:

- Manages available and filled parking slots.
- Initializes slots for each vehicle type using a queue.
- Parks a vehicle by allocating the first available slot.
- Removes a vehicle and makes its slot available again.
- Displays all currently parked vehicles and their slots.

Slot.java

Slot.java:

- Represents a parking slot with a type and unique ID.
- Can assign or remove a vehicle.
- Used internally by ParkingLot to track slot usage.

Vehicle.java

Vehicle.java:

- Represents a vehicle with a license plate and type.
- Constructed with type and plate number when entering the lot.

VehicleType.java

VehicleType.java:

- Enum with 3 constants: SMALL, LARGE, OVERSIZE.
- Used to categorize vehicles and slots accordingly.