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Idea Number: 5

Title	Gym & Padel Management System
Description	<p>This project efficiently manages gym memberships, staff, class scheduling, and Padel court bookings.</p> <p>The system allows users to register as members, subscribe to training programs, book Padel courts, and track workout histories.</p> <p>Staff members, including coaches and managers, can schedule classes, manage availability, and handle waitlists.</p>
Minimum requirements	<p>Gym Member & Staff Management:</p> <ul style="list-style-type: none">✓ Members have: ID, Name, Date of Birth, and Subscription Period (monthly, 3 months, 6 months, or yearly) each with different pricing.✓ Staff roles are Receptionists, Coaches, and Managers.✓ Staff can store, retrieve and search member information and manage members needing subscription renewal notifications (update their subscription whether renewing or cancelling it). <p>Gym Classes Scheduling & Waitlist System:</p> <ul style="list-style-type: none">• Classes are scheduled at the beginning of each month. ✓• Each coach has his/her class assignments for quick lookup of classes.• Each class has its own capacity (number of people that can attend it). If a class is full, members can join a waitlist for openings. ✓• If a member cancels, the first member in the waitlist is notified and added automatically. ✓ <p>Workout History Tracking:</p> <ul style="list-style-type: none">• Each member can keep track of their past workouts, i.e., Members can check their recent workouts and progress. ✓ <p>Subscription Management & Renewal Reminders:</p> <ul style="list-style-type: none">• System tracks subscription expiry dates and sends automatic reminders (notifications) for renewals. ✓• Discounts or offers for early renewals can be included. <p>Padel Court Booking System:</p> <ul style="list-style-type: none">• Members can search for available courts based on date, time, and location. ✓✓ If no court is available at the requested time, members can check the next closest time slots.✓ Cancellation or rescheduling is available until 3 hours before booked time.
Bonus Opportunities	<ul style="list-style-type: none">• Generate monthly reports showing most active members, and revenue tracking.• VIP members get priority in booking Padel courts and class waitlists.• GUI implementation.

Title Development Tool	Gym & Padel Management System <ul style="list-style-type: none">● Use suitable Data Structures in your project (You can use STL).● Use Files for storing data.● Utilize at least 3 different Data Structures efficiently.
Notes	<ul style="list-style-type: none">● Load data from the program (Data Structures) into files only once at the end of your program after finishing.● Load data from files into the program (Data Structures) only once at the beginning of the program.
Evaluation	<ul style="list-style-type: none">● The evaluation will be mainly based on the student's ability to use and apply the most suitable data structure(s) for the given task(s) and explain why they used them and why they are better than other data structures in any given case.● Clean code is a must.