**Scenario: University-Level Quiz Application for BCS/BSE Students**

A university wants to help its ***undergraduate Computer Science (BCS) and Software Engineering (BSE) students*** prepare for technical interviews by testing their fundamental knowledge. They request a Quiz Application that focuses on core topics like Programming Basics, Data Structures, Algorithms, Databases, and Operating Systems.

The application will serve as a **self-assessment tool**, where students can take quizzes to check their understanding of essential concepts—the kind frequently asked in job interviews. Every time a student takes a quiz, the system will **randomize questions**from a large pool, ensuring they don’t memorize answers but instead reinforce their basics. Most questions (around **70**%) will be **easy-to-medium difficulty**, covering foundational topics like:

* “Variables, loops, and functions” in programming
* “Arrays, Linked Lists, Stacks, and Queues” in DSA
* “SQL queries and normalization” in databases
* “Process scheduling and memory management” in OS

The remaining **30%** can be slightly tougher, helping students gauge their readiness for more challenging interview questions.

Students will register with their university email, track their progress, and see their weak areas. The app will also provide instant feedback after each quiz, explaining correct answers and linking to study resources. A **leaderboard** will motivate healthy competition among peers.

For professors, there will be an **admin panel** to “add, edit, or remove questions”, ensuring the quiz bank stays updated with industry-relevant topics.

The goal? By the time students graduate and attend interviews, they’ll have *strong fundamental*s—no more blanking out on basic questions like **"What is a linked list?"** or **"Explain time complexity of Binary Search."**