REQUIREMENTS

**Phase-1**

In the phase one, you will complete the following:

I should be able to add teachers record

I should be able to add students record

I should be able to assign multiple students to a teacher

You will create one game, with one level and with 2 unique but fixed problem set (1 set for Maths and 1 set for Programming)

The first game that you will create will be **Memory Game: Flip Cards for Matching**

The rules of the game

The game will have a set of 10 problem statements, and 20 cards.

The question will be written on 10 of the cards while the answer will be written on the other 10.

The cards will be flipped upside down. And they will be shuffled to randomly placed on the board.

Each card will be numbered from 1-20, and that number will be written on the back of each card

It will be a single player game for phase-1 of this project.

Once the game is started, student should be prompted to select one of the two problem sets

One selecting one set, the student is shown the flipped cards.

System prompts for two card numbers.

The respective cards are flipped

If the question and answer in both cards matches then both cards disappear.

Position of any card is not changed once the game is started

The game ends when all the cards are successfully matched

Points are assigned to the student based on following rules

10 points for completing the game in less than 10 mins

5 points for completing the game between 10-20 mins (inclusive of the boundaries)

2 points for completing the game in more than 20 mins

**Phase-2**

**Improving the Experience**:

Add features for students to:

View their progress, including completed games and scores.

Check game history with details of played games.

Compare rankings with other students.

Add features for teachers to:

View and manage student performance records.

Monitor game scores and track individual or class-wide progress.

Allow teachers to upload **custom problem sets** for all games, tailoring the content to their curriculum.

**Dynamic Point System**:

Introduce **Achievements and Badges** for milestones such as:

Completing the game without mistakes.

Fastest completion of the game.

Consecutive matches without errors.

Add **Streak Bonuses** for:

Consecutive correct matches in the Memory Game.

Multiple games completed in a row with high scores.

**Expanding Game Options**:

Add more games, such as:

**Quiz Game**: Answer questions correctly to earn points.

**Puzzle Solver**: Solve mathematical or logical puzzles within a time limit.

Enhance the **Memory Game**:

Add multiple levels with increasing difficulty (e.g., more cards, complex problem sets, or time restrictions).