Rating Service

Problem Statement

Design and implement an in-memory Rating Service. Using this rating service administrator should be able to create a new survey. Inside this survey, the admin should be able to add, update and delete questions. A question can have multiple options, where options have weights assigned. The average of answers' weight is the rating of the survey, an average of all ratings is the overall survey rating.

A survey can be shared with registered users.

Below functionality should be available

Admin :

1. Create a survey
2. Create questions and options for surveys
3. Define the weightage for each answer
4. Survey response should be rated, overall rating should be calculated, and shown to admin
5. Admin should be able to see the average rating of each question

User

1. Users should be able to respond to the provided survey,
2. Users should not be allowed to re-submit a survey

Extensions:

Major

1. Allow draft survey submissions
2. Allow non-registered users to submit the survey
3. Allow different question versions in a survey based on role
4. Allow conditional questions to appear on answering a questions

Minor

1. Not all questions can have ratings
2. Support for multiple surveys

Note:

- For simplicity, all interactions can be treated as function calls.
- Code should executable, follow design principles (modular, readable, testable, etc.,)

Sample Survey

1. How well did you do this round?
    a. Very Poor - 1
    b. Poor - 2
    c. Average - 3
    d. Good - 4
    e. Very Good - 5
2. How difficult is the question?
    a. Easy - 1
    b. Ok - 3
    c. Difficult - 4
    d. Very Difficult - 5

Evaluation Metrics

SDE - 1

Question	Base Question
Extensibility	Minor extensions. An interviewer can take a call to limit the scope.
Expectations	Functionality should be implemented

Sample Solution

Ref - Rating Service