CS PROJECT

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Question Statement

Write a C program to simulate online Quiz conduction. The program should have features like:

► Login details entry.

► Display question.

► User enters the answer.

► Validate answer and display result.

► Total questions, attempted questions, correct answers, wrong answers and total score.

► The Quiz should have a Re-attempt option, and in reattempt questions should not be the same as previous.

► As an Admin, have the privilege to add new questions to the quiz.

Design Steps

- Main Code: It has the definition and declaration of functions required to simulate online quiz conduction.

- Each function implements the features mentioned in the problem statement. For e.g. The Register Function returns the username and password, etc.

- The functions also display appropriate welcome/continuity messages like "Welcome to our Quiz App!", "Please enter your choice" . While also providing options like "Register", "Logout", "Take Quiz", "Return to main menu", etc. after a certain amount of delay.

Design Steps & Results

► Welcome Screen: Gives the choice to either login/register/exit according to convenience.

► Login Function: Takes the input as login credentials and has three further options further explored over the next few slides.

```
Welcome to our Quiz App !!

1.Admin Login

2.Student login

3.New User Registration

4.Exit

Enter any of the above options
```

Design Steps & Results

- Student Login: Checks if the user with the corresponding credentials exists in Register.txt, if so it permits the quiz to be attempted, and proceed to the Take Quiz/View Past Performance/Return to Main Menu Function.

```
Enter username (no space) user
Enter password (no space) user
This username already exists.Would you like to try again? (Y/N)
```

```
HEY THERE, username

1.Take quiz

2.View past performance

3.Return to Main Menu
```

Design Steps & Results

- Admin Login: Retrieves password from the Admin.txt file, checks the credibility of input, permits the use of the admin privileges if the input credentials are valid, and proceed to the four admin privilege functions and logout as is shown in the given screenshot.

Design Steps & Results

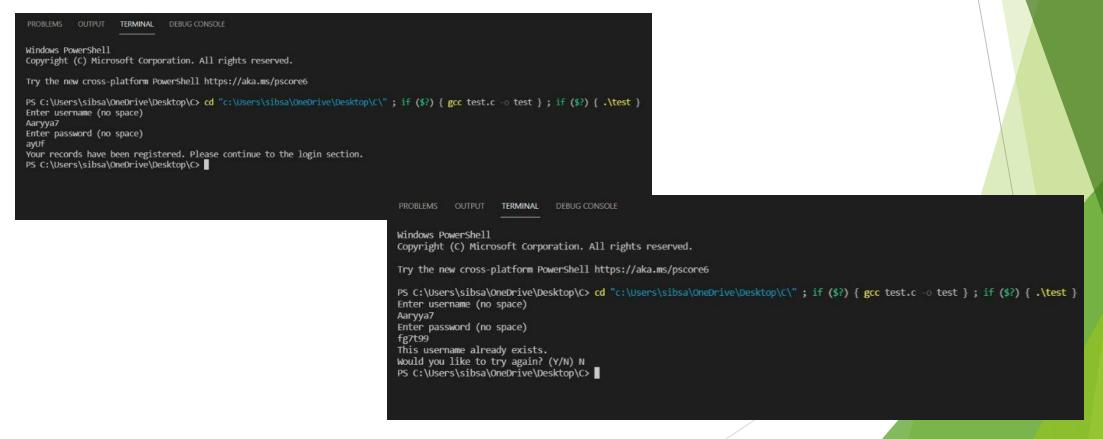- Register: Lets the user to create account in Register.txt, given the username is not previously used and completely unique, and proceeds to the login section again. If the input credentials are not unique, if asks you to try again and if not proceeds to the login section.

Design Steps & Results

- Admin Privilege permits access to the given three functions:

- Add Question Function: Lets the admin add additional question(s), the options, and the corresponding answer(s) to the QnA.txt file.

```
Enter the question
How many sides do triangles have ?

Enter Option A
Triangles do not have sides

Enter Option B
3

Enter Option C
19

Enter Option D
1

Enter correct option(A/B/C/D)
B

Would you like to add another question? (yes/no)
no
```

Design Steps & Results

- Edit Question Function: Lets the admin select and edit/change any specific question(s) and the corresponding answer(s).

- Remove Question Function: Lets the admin remove the desired question(s) and their corresponding answer(s) from the QnA.txt file by presenting them one by one and giving you the choice to either delete or keep the question. This is shown in the given screenshot.

```
Questions will be displayed one by one. You can decide whether to keep them or remove them
How many sides does a triangle have

Enter yes to delete and any other character to keep question
yes
```

Design Steps & Results

▶ Shuffle Function: Takes all the questions from the QnA.txt file and shuffles it using the Fisher-Yates algorithm.

▶ Take Quiz Function: If it's the 1st attempt, it displays the questions, collects answers, grades the quiz; and asks to either reattempt or logout. If it's the reattempt, it displays another set of questions, collects answers, grades the quiz; and only lets the user to logout.

```
Q1)What is approximately the total number of combinations possible on a 3x3 Rubik's Cube?
A)43 Quintillion
B)43 Billion
C)43 Trillion
D)43
Enter your answer:
```

Additional Features

▶ Performance evaluation function: Evaluates the answers received and grades the quiz accordingly. The detailed quiz results are presented at the end of the attempt.

```
------------------------Quiz results---------------------
Total questions:10
Questions attempted:8
Questions unattempted:2
Questions correct:7
Questions incorrect:1
```

Additional Features

- Performance Record register perfrec() function

- Performance Record Viewing pastper() function

- Mock quiz facility among administrative functions

- Quiz question randomization using Yates Fisher algorithm

- Edit Question and Remove question functionality

References & Roles

▶ References: Sources referred for writing code, ideas for implementing additional features

1. Class Notes: The details provided in class notes and lectures proved to be the basis of the ideation of majority of the code.

2. Geeksforgeeks : Vital role in implementing Shuffle algorithm and other functionality

3. Stackoverflow : Error eradication

4. Programiz : General information regarding C File Management

Name	Role
Aaryya Das	Functions for registration and login
Altmash S	Function for user to take quiz
Devdatt N	Administrative, User Evaluation functions and Bug Fixes
Aryan T	Main function, Shuffle algorithm and Generating Project report