Coursework 1 report

This is my report for my coursework 1 final submission, this will include a description of how my game and website functions such as how the game works and the registration, login, error handling, input validation and rankings functionality.

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**game play**

The object of the game is for the player to move their paddle using their mouse to move the paddle up and down to knock the ball back; if they fail and the ball passes them, the opposing player scores a point. This is the how the game works. Every time a player scores, the ball's speed rises, adding to the game's interest and enjoyment. The game's score will be maintained via a scoring system, whereby a user's score increases by one after each score. Users can monitor their performance on the scoreboard located above the game. The game ends when a player reaches 11 goals. A notification stating that the "user’s name has won will appear. As the ball speed increases the game becomes harder to play. If the player however loses to the computer AI the score they got against the computer will go towards their high score. However, the player's score versus the AI of the computer will count towards their high score if they lose. Moreover, there will be a button at the conclusion of the game that allows users to retry and attempt to raise their score if the AI defeats them. The greatest possible score is eleven points. Each user's high score is saved to their local storage, allowing them to compete against one another and with their peers to see who can outsmart the AI.

**Registration Validation**

It's easy to create an account. Just complete the form, for which will ask for the user's email address, desired username, phone number, age, date of birth, and gender will all be requested on the form. The register details are then saved in a Json file in the local storage. The user will successfully create an account after clicking the "create an account" button. Consequently, a green success message stating "registration successful" will appear. After that, all of this data is saved to the website’s local storage. But when it comes to handling problems, the registration form won't generate an account if any fields are left blank. Additionally, a red warning stating "username or email taken please try again" will appear if someone else tries to create an account using the same username or email. This prevents users from creating multiple accounts under the same username because it will be challenging to distinguish between users who have the same account while tracking scores. Every user has a distinct username as a result.

Login Validation

The user will have the opportunity to log in after creating an account. They can now log in using their chosen username and password. A green message indicating "login successful" will appear if the username and password are accurate. However, a red alert stating "username or password incorrect" will appear if the username or password are entered incorrectly. Because it is difficult for someone attempting to connect into someone else's account to figure out which part of the login form they entered incorrectly, it does not disclose which one is incorrect. After logging in, the username is saved to the session storage and indicates whether the user is logged in. If the user is logged in the session storage will say “loggedin”.

**Ranking**

The ranking system is simple. The user will be ranked according to their game high score, with the highest score at the top and the lowest at the bottom. It will show their score in addition to their username. Regretfully, I was unable to make my ranking table functional.