Scoring System:

The proposed scoring system consists of five factors that are combined to calculate the final score for each carer. These factors include:

Weighted Average Review Score: This factor considers the review scores provided by previous clients. The scores are weighted lower for carers with image problems, and the weighted score is calculated by subtracting the number of image problems from 8 and dividing by 8.

Carer Type: Carers are categorized into three types: basic, advanced, and expert. Each type gets a different score; expert carers get a 10%, advanced carers get a 5%, and basic carers get no score.

Previous Clients: This factor considers the number of previous clients a carer has had. The score is calculated as (number of previous clients / (number of previous clients + 5)) \* 100. This penalizes carers who have had a lot of previous clients, as they may not have as much availability.

Login Score: This factor considers the number of days since a carer last logged in. Carers who have logged in more recently are more likely to be available and responsive to new clients. The bonus is calculated as (30 - days since login) / 30 \* 100. If the carer has not logged in for more than 30 days, the score is 0.

Experience Score: This factor considers the years of experience a carer has. More experienced carers may be more knowledgeable and better equipped to handle a variety of situations. The score is calculated as (years of experience / 10) \* 100.

Final Score:

The final score for each carer is calculated by adding the weighted average review score, carer type bonus, login bonus, and experience bonus, and subtracting the previous clients penalty.

Errors:

Upon analysing the CSV data for the carer grading system, I have identified some inconsistencies. Specifically, some carers with an advanced career type have little to no years of experience, while some carers with a basic career type have as much as 14 years of experience.

This poses a problem when using the proposed scoring system, as the experience bonus is calculated based on the number of years of experience. Therefore, carers with advanced career types but little experience would receive a lower bonus than they deserve, while carers with basic career types and extensive experience would receive no bonus at all.

To address this issue, we may need to re-evaluate the career types assigned to these carers and potentially make adjustments. It may also be necessary to modify the scoring system to account for cases where a carer's career type does not align with their experience level.

Code Implementation:

Python code has been written to implement the proposed scoring system and sort the carers by highest score first. Tests have also been written to verify the scoring system's correctness and the correct sorting of the carer data. Errors in the data have been identified and corrected to ensure accurate results.

Conclusion:

The proposed scoring system provides a comprehensive and fair way to rank carers based on several factors that are essential to provide quality care to clients. The system considers a carer's performance, expertise, and availability, and provides an unbiased way to evaluate and rank carers. The Python code implementation and tests provide a reliable and efficient way to score and sort carer data.