**Enhanced Farkle Game Narrative**

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**Introduction**

In this project, I embarked on enhancing a console-based Farkle game, originally developed as part of my coursework in computer science. This endeavor aimed to apply advanced programming techniques, improve the game's efficiency and user experience, and ensure the code's adherence to professional standards.

**Project Enhancements**

**Enhanced Scoring Logic**

**Objective and Outcome Alignment:**  
This enhancement directly contributes to mastering algorithmic principles and practices, a core objective of the course. By refining the game's scoring logic, I demonstrated my capability to design, evaluate, and optimize computing solutions—a key course outcome.

**Description and Implementation:**  
The scoring algorithm was overhauled to accurately reflect the complexities of Farkle's rules. The new logic efficiently calculates scores based on dice rolls, including handling special cases for rolls of 1s and 5s, and assessing three of a kind for all numbers. This optimization ensures the game operates under the correct rules, improving both its integrity and playability.

**Documentation and Professional Communication**

**Objective and Outcome Alignment:**  
Enhancing documentation within the code and narrative underscores the importance of professional communication in software development. By providing clear, comprehensive comments and documentation, I adhered to industry standards, aligning with course objectives related to professional practice in computer science.

**Description and Implementation:**  
Each function and significant code block within **Farkle\_Enhanced.cpp** is accompanied by comments that explain its purpose, parameters, and the logic behind its implementation. The file header introduces the game, my name as the author, and version information, setting a professional tone for the document.

**Code Efficiency and Readability**

**Objective and Outcome Alignment:**  
Improving the code's efficiency and readability addresses the course's focus on applying computer science practices and managing trade-offs in design choices. By optimizing the game's logic and structuring the code for better readability, I demonstrated an understanding of these critical aspects.

**Description and Implementation:**  
The game's main loop, scoring calculations, and player interactions were optimized for performance and clarity. Variables and functions are named meaningfully, ensuring that the code is accessible and maintainable. These improvements not only make the game more efficient but also enhance the development experience for others working with the code.

**Reflection on the Enhancement Process**

The process of enhancing the Farkle game was both challenging and rewarding. It required a deep dive into the original codebase, identifying areas for improvement, and applying theoretical knowledge in practical scenarios. This project underscored the importance of clear planning, iterative development, and thorough testing in software engineering. Through this endeavor, I've gained valuable insights into algorithm optimization, effective documentation, and the impact of well-considered design choices on software quality.

**Conclusion**

The enhanced Farkle game project represents a significant step forward in my understanding and application of computer science principles and practices. By focusing on algorithmic efficiency, professional documentation, and code readability, I have not only improved the game but also demonstrated competencies aligned with the course's objectives and outcomes. This project exemplifies the practical application of theoretical knowledge, bridging the gap between learning and doing in the field of software development.