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CMSC204

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Learning Experience Assignment 5

Working on this project has been an enriching experience, significantly enhancing my understanding of Java and object-oriented programming. The journey began with designing and implementing a Morse Code Converter, which required a solid grasp of data structures such as binary trees and hash tables. This project reinforced my understanding of these concepts and demonstrated their practical applications in a real-world scenario.

One of the most valuable lessons learned was the importance of thorough testing and debugging. The project required rigorous testing to ensure that the Morse Code conversion was accurate and that the MorseCodeTree was built correctly. I struggled with correctly implementing and testing the MorseCodeTree class and ensuring that all Morse Code characters were correctly mapped and retrieved. The challenges in getting the expected output and the proper handling of file input/output were particularly insightful, teaching me the significance of meticulous attention to detail in coding.

Another significant aspect was learning how to properly document code using Javadoc comments. Crafting comprehensive documentation improved my ability to communicate code functionality and usage effectively, making it easier to maintain and understand.

In future projects, I would focus on improving my approach to code documentation and testing from the beginning. Implementing unit tests early in the development process, along with consistent and clear documentation, would help catch issues sooner and ensure that all aspects of the project are thoroughly covered. Additionally, paying closer attention to edge cases and testing under various scenarios would help in creating more robust and reliable software.

Overall, this project has provided me with valuable insights into software development practices and highlighted areas for improvement in my coding and testing strategies.