

Description of Implementation:

I implemented the program using Python because of its readability and ease of working with complex algorithms, such as Breadth-First Search (BFS) used here. The BFS approach was chosen because it explores all possible states and guarantees the shortest sequence of valid moves to transport brewers and drinkers across the river.

I used PyCharm IDE for development due to its strong debugging tools, integrated testing capabilities, and support for Python projects, making it easier to track errors and test the logic.

The program includes unit tests using the unittest framework to ensure that the logic works for various input scenarios. Writing tests helped validate the correctness of the algorithm and avoid bugs during development, especially for edge cases.