Code Reuse Analysis

Code reuse in the IntegerLinkedList program is demonstrated through the utilization of built-in classes and methods from the Java library. For example, the LinkedList class is used to create and manage a list of integers, allowing for straightforward additions and removals of values without requiring the implementation of additional code. By leveraging the capabilities of the LinkedList, the program benefits from optimized methods for handling dynamic collections. Furthermore, the inclusion of the Collections.sort() method streamlines the sorting process, eliminating the need to develop a custom sorting algorithm and ensuring that the code remains concise and efficient.

Additionally, the program employs the Scanner class to capture user input and demonstrate how existing tools can enhance coding productivity and efficiency. By using this utility, the program simplifies the process of reading input from the user and automatically handles potential errors when capturing the input, such as empty entries or invalid data formats, through exception handling. This reliance on standard Java libraries not only minimizes the amount of code written but also increases the reliability of the program, as these libraries are well-tested and widely used. Overall, the effective use of these built-in classes illustrates the advantages of code reuse in reducing development time while improving code quality and maintainability.