Group 8:

1. Alif Tanoto
2. Rheynorich
3. Suwandi The

Problem: Fibonacci Sequence.

Base case:

The base case for the Fibonacci sequence problem is typically defined as when the input is 0 or 1. In the Fibonacci sequence, $F(0) = 0$ and $F(1) = 1$.

General case:

For the Fibonacci sequence, the general case is the recursive relation where each term is the sum of the two preceding terms: $F(n) = F(n-1) + F(n-2)$, for $n > 1$.

Simulation:

(https://github.com/aliftanoto/Data-Structures-class-exercise)

Maximum number of inputs can be handled by the function:

For the iterative function, it generally has better performance and scalability compared to the recursive function. It can handle larger inputs due to its linear time complexity.

On the other hand, the recursive function has exponential time complexity and is less efficient for large inputs. It can handle smaller inputs before encountering performance issues.

To determine the maximum input size that can be handled by these functions, you would need to conduct performance testing and analysis on the specific environment where the program is running. You could increase the input size until the program starts to exhibit performance degradation or encountered errors. This would give you an idea of the practical limitations of the functions in terms of the input size.