Question 4: Find Maximum Product of Three Numbers

Prompts Used: to find the maximum product of 3 numbers, should I consider the negative numbers?

Responses Received: Yes, you should consider negative numbers when finding the maximum product of three numbers. This is because the product of two negative numbers is positive, and multiplying it by a positive number can yield a larger product than using three positive numbers.

Implementation Details:

The AI suggested taking negative numbers into account because multiplying two negative numbers can give a larger product when combined with a positive number. This idea was used to compare both the product of the largest three numbers and the two smallest with the largest.

Adjustments:

The solution was updated to consider both negative and positive numbers for the correct result. No other major changes were needed.

Question 6: Find Minimum in Rotated Sorted Array

Prompts Used: do I need to use binary search ?

Responses Received: Yes, using binary search is an efficient way to find the minimum element in a rotated sorted array. The binary search approach has a time complexity of O(log n), which is more efficient than a linear search with O(n) time complexity.

Implementation Details: The AI suggested using binary search to find the minimum element in a rotated sorted array due to its O(log n) time complexity. This approach improves efficiency compared to a linear search, which has O(n) time complexity. The solution was modified to implement binary search instead of linear search for optimal performance.

Adjustments: The approach was changed from a linear search to binary search to enhance efficiency. This modification ensures the solution works faster, especially for large arrays.