Question 7 [8 marks]:

Let A be a sequence with n nonzero numbers. Design an algorithm by using induction to compute the sum of the reciprocal of the numbers in A. Specify your algorithm using recursive implementation. Note that for a number x, its reciprocal is 1/x.

```
def recursive_sum_of_reciprocals(A):
    # A is a list of non-zero numbers

    # Base case: if the list is empty, return 0
    if len(A) == 0:
        return 0

    # Recursive case: compute the sum for the first n-1 elements, then add the reciprocal of the
nth element
    else:
        # Use array slicing to pass the first n-1 elements to the recursive call
        return recursive_sum_of_reciprocals(A[:-1]) + 1/A[-1]
```