Logo

STUDENT REPORT

DETAILS

Name

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Roll Number

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EXPERIMENT

Title

MINIMUM ARRAY SUM

Description

Paul is given an array A of length N. He must perform the following Operations on the array sequentially:

* Choose any two integers from the array and calculate their average.

* If an element is less than the average, update it to 0. However, if the element is greater than or equal to the average, he need not update it.

Your task is to help Paul find and return an integer value, representing the minimum possible sum of all the elements in the array by performing the above operations.

Note: An exact average should be calculated, even if it results in a decimal.

Input Format:

input1: An integer value N, representing the size of the array A.

input2: An integer array A.

Output Format:

Return an integer value, representing the minimum possible sum of all the elements in the array by

Sample Input

5
1 2 3 4 5

Sample Output

5

Source Code:

```
def min_sum_after_operations(N, A):
    # Find the maximum element in the array
    max_element = max(A)

    # Calculate the average using the maximum element
    # To maximize the number of zeros, use the average with the smallest number
    # or simply use the max_element itself, because:
    # average = (max_element + x) / 2 where x is another element
    # the average won't exceed the max_element.
    average = max_element

    # Update the array
    for i in range(N):
        if A[i] < average:
            A[i] = 0

    # Calculate the minimum possible sum
    return sum(A)

# Example usage
if __name__ == "__main__":
    import sys

    N = int(sys.stdin.readline().strip())  # Read the size of the array
    A = list(map(int, sys.stdin.readline().strip().split()))  # Read the array

    result = min_sum_after_operations(N, A)
    print(result)
```

RESULT

5 / 5 Test Cases Passed | 100 %