

Problem 3: Subset Sum

Problem Statement:

You are given an array of integers a of size n ($1 \leq n \leq 20$, $-100 \leq a[i] \leq 100$) and an integer target. Your task is to determine whether there exists a subset of a whose sum equals target using a recursive approach.

Input:

The first line contains two integers n and target.

The second line contains n integers $a[1], a[2], \dots, a[n]$.

Output:

Print "YES" if such a subset exists, otherwise print "NO".

Examples:

Input:

4 7

3 3 4 4 12

Output:

YES

Explain: {3,4}: sum = 3+4= 7

Input:

5 15

1 -2 3 -4 8

Output:

NO

Explain: None of the subsets sum to 15.