The 2018 Ethiopian Collegiate Programming Contest

Problem F
Parcel
Time Limit: 4 Seconds

ICPC (International Collegiate Parcel Center) is leading the event for free international delivery of parcels among world-wide collegiate students. The requirements for free delivery are that the parcel should consist of four items and the sum of weights of them should be equal to the certain integral weight w gram.

Chansoo in Pusan National University has a lot of items to send to his friend Soowhan in Imperial College in London, and the weights of the items are all different. Since this is a limited-time event, Chansoo wants to check as fast as possible whether he has four items satisfying to the condition or not. Assume that the weights of the items are exact positive integer grams, and remember they are all distinct. In other words, Chansoo wants to select a subset B with four elements ($|B| = 4$) from a set A of n ($n \geq 4$) distinct positive integers, and wants to check whether $\sum_{b \in B} b = w$ or not.

Given a target weight w and a set A of n distinct positive integers, write a program to print `YES` if such subset B exists, and `NO`, otherwise.

Input
Your program is to read from standard input. The input starts with a line containing two positive integers w and n separated by a space, where w ($10 \leq w \leq 799{,}994$) is the target weight and n ($4 \leq n \leq 5{,}000$), the number of elements of A. In the following line, n positive integers, $a_i \in A$ ($1 \leq i \leq n$), are given separated by a space. Each element a_i is in the range of 1 and 200,000 inclusively ($1 \leq a_i \leq 200{,}000$).

Output
Your program is to write to standard output. Print exactly one line which contains `YES` or `NO` according to the requirements above.

The following shows the sample input and output for two test cases.

Sample Input 1	Output for the Sample Input 1
10 6 5 10 7 3 2 1	NO

Sample Input 2	Output for the Sample Input 2
21 7 10 1 4 6 2 8 5	YES