

## Open book Exam [2 hours; 10 + 20 + 20 marks]

1. Alice and Bob are playing a game. Each player rolls a regular six-faced dice 3 times. The score of a player is the sum of the values of the highest 2 rolls. The player with the highest score wins, and the game ends in a Tie if both players have the same score.

### Input Format

Each test case contains six space-separated integers  $A_1$ ,  $A_2$ ,  $A_3$ ,  $B_1$ ,  $B_2$ , and  $B_3$  — the values Alice gets in her 3 dice rolls, followed by the values that Bob gets in his 3 dice rolls.

### Output Format

For each test case, output on a new line Alice if Alice wins, Bob if Bob wins and Tie in case of a tie.

Note that you may print each character in uppercase or lowercase. For example, the strings tie, TIE, Tie, and tle are considered identical.

### Constraints

$$1 \leq T \leq 10^4$$

$$1 \leq A_1, A_2, A_3, B_1, B_2, B_3 \leq 6$$

Testcase 1:

Input:

3 2 5 6 1 1

Output:

Alice

Testcase 2:

Input:

4 4 5 6 4 1

Output:

Bob

Testcase 3:

Input:

6 6 6 6 6 1

Output:

Tie

Explanation:

Test Case 1:

Alice's score is  $8 = (3 + 5)$  which is greater than Bob's score  $7 = (6 + 1)$ .

Test Case 2:

Alice's score is  $9 = (5 + 4)$  which is less than Bob's score  $10 = (6 + 4)$ .

Test Case 3:

Alice's score is  $12 = (6 + 6)$  which is the same as Bob's score  $12 = (6 + 6)$ .

2. Alice and Bob are meeting after a long time. As usual, they love to play some math games. This time Alice takes the call and decides the game. The game is very simple, Alice says out an integer and Bob has to say whether the number is prime or not. Bob as usual knows the logic but since Alice doesn't give Bob much time to think, so Bob decides to write a computer program.

Help Bob accomplish this task by writing a computer program to calculate whether the number is prime.

Note that 1 is not a prime number.

Input

first line contains an integer  $N$  which has to be tested for primality.

Output

output in a separate line, "yes" if the number is prime else "no."

Constraints

$1 \leq T \leq 20$

$1 \leq N \leq 100000$

Testcase 1:

Input:

23

Output:

Yes

Testcase 2:

Input:

13

Output:

Yes

Testcase 3:

Input:

20

Output:

No

3. The chef visited a grocery store for fresh supplies. There are  $N$  items in the store where the  $i$ th item has a freshness value  $A_i$  and cost  $B_i$ . Chef has decided to purchase all the items having a freshness value greater than or equal to  $X$ . Find the total cost of the groceries Chef buys.

**Input Format:**

The first line of each test case contains two space-separated integers  $N$  and  $X$  — the number of items and the minimum freshness value an item should have.

The second line contains  $N$  space-separated integers, the array  $A$ , denoting the freshness value of each item.

The third line contains  $N$  space-separated integers, the array  $B$ , denoting the cost of each item.

**Output Format:**

For each test case, output on a new line, the total cost of the groceries Chef buys.

**Constraints:**

$1 \leq T \leq 100$

$1 \leq N, X \leq 100$

$1 \leq A_i, B_i \leq 100$

**Testcases:**

Testcase 1:

Input:

2 20

15 67

10 90

Output:

90

Testcase 2:

Input:

3 1

1 2 3

1 2 3

Output:

6

Testcase 3:

Input:

3 100  
10 90 50  
30 7 93  
Output:  
0

**Explanation:**

Testcase 1:

Only the 2nd item has a freshness value (67) greater than X (20), and the cost is 90.

Testcase 2:

All the items have a freshness value greater than or equal to X (1), hence we add all the costs:  $1 + 2 + 3 = 6$

Testcase 3:

None of the items has a freshness value greater than or equal to X (100), hence the total is 0