WING BONDING

August 17, 2022

Imagine new batch Y22 has arrived at campus. You are a coordinator of counselling service team of IIT Kanpur. You visit HALL-6 Mess daily for meals and there you are observing that there is no wing bonding among the Y22 girls

You have seen many times that they come to mess and sit on the table without caring about that their neighbouring person is their wingie or not. In some cases, where the next person sitting to a girl is from her wing, they talk with each other (Gossips:p) and hence the wing bonding increases. Now, one day you decided to ask some x girls to shift to some other table so that maximum number of a particular wing stay together and wing bonding is made.

You see n girls on a particular table of w different wings at a particular time say, hh:mm:ss

Now from a particular table, you can remove a maximum of x girls Now you don't have so much of power (going into a little reality XD) that you can ask any number of girls to leave that table. So, at maximum, you can ask x girls where, $x = \gcd$ of hh,mm,ss

Write a program that determines the maximum possible number of girls that sit on consecutive seats.

It is fine if you do not remove even 1 girl

INPUT

The first line contains one integer t, number of test cases

$$(1 \le t \le 1000)$$

The following t test cases contains information of each table First line of each test case contains two integers n and w

$$(1 \le n \le 1000, 1 \le m \le 500)$$

Second line of each test case contains three integers hh, mm and ss, the time in 24-hour format at which you saw that table in the mess

$$(0 = h \le 24, 0 \le mm, ss \le 60)$$

Third line of each test case contains n integers from 1 to w - number of different wings the people belong to The integers are separated by single space.

OUTPUT

Print the maximum possible number of people from the same wing after removing x people

EXAMPLES

INPUT

 $\begin{matrix} 1 \\ 10 \ 4 \\ 12 \ 40 \ 08 \\ 1 \ 4 \ 2 \ 3 \ 1 \ 4 \ 2 \ 1 \ 4 \ 4 \end{matrix}$

OUTPUT

3

INPUT

2 11 3 15 27 06 1 2 1 1 1 3 2 1 1 2 2 14 5 15 30 30 1 1 2 3 1 4 5 5 4 2 5 4 3 1

OUTPUT

6 4

EXPLANATION

In the first sample, gcd of 12,40,08 is 4 so we will remove maximum 4 people. For maximum possible people of same wing together we remove 7th and 8th person.

In the second sample, in the first test case, gcd=3, we remove 2nd, 6th, 7th person.

In second test case, gcd=15, we remove 3rd, 4th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th person.