Problem A: Oops! Apocalypse!

The Umbrella Corporation would like help dealing with some minor problems at its newest biocontainment facility. This facility consists of a set of rooms linked by corridors and air ducts. A room-cluster is the largest possible set of rooms such that there is a path by corridor and/or air duct from any room in the cluster to any other room in the cluster. An unfortunate event occurring in one room will infect all rooms in that room's cluster. On occasion, multiple unfortunate events occur simultaneously; in those cases, the upper management of the Umbrella Corporation would very much like to know the number of rooms in the largest cluster of uninfected rooms.

Input

The first line of the input contains the total number of test cases in the file. Each subsequent test case consists of $R + 2$ lines, where the first line gives the total number R of rooms in the facility and the second line gives a (possibly empty) list of room numbers in which unfortunate events have occurred (room numbers start at 1 and not 0). Lines 3 through $R + 2$ give a symmetric $R \times R$ matrix C whose entry $C[i - 1][j - 1]$ is 1 if there is an air duct or corridor connecting room numbers i and j and 0 otherwise.

Output

For each test case, your program should compute the size of the largest cluster of uninfected rooms given the list of rooms in which unfortunate events have occurred and output a message of the form "The size of the largest uninfected room-cluster is n", where n is the size of the largest uninfected room-cluster for that case.

Sample input (available as file "A.in"):

```
4
5

01111
10111
11011
11101
11110
5
1
01000
10000
00011
00101
00110
5
5
01000
10000
00011
00101
```

```
00110
5
1 4
01000
10000
00011
00101
00110
```

Sample output (available as file "A.out"):

```
The size of the largest uninfected room-cluster is 5
The size of the largest uninfected room-cluster is 3
The size of the largest uninfected room-cluster is 2
The size of the largest uninfected room-cluster is 0
```

Sample room diagram for test cases 2, 3 and 4 above: