Trade-in Phone S6  
  
New model Galaxy S6 has been released on market. Our customers want to change their old models (S1 -> S5) to this new model. Currently, there are several service booths locate on map to help customer change their device.  
There are total 5 kinds of booth (1->5) to help change device from S1->S5 to new model. However, these booth were distributed randomly on the map.   
Ex:  
5 5 1 4 4  
4 0 2 4 2  
5 0 0 2 0  
5 4 3 0 1  
1 3 3 2 1  
There are also the booths which serve other service and are marked as 0 on the map.  
  
Our manager wants to improve the service for customers. To do that, we can exchange the booth 0 to other booth (1-5) around it so that the same kind of booths will be connected. And in order to maximum the performance, we will exchange booth 0 to the booth with highest frequency of appearance around it.  
Ex: Consider the area consist of three booths 0, we need to exchange these booths to the booth around them with highest appearance frequency.  
5 5 1 4 4  
4 0 2 4 2  
5 0 0 2 0  
5 4 3 0 1  
1 3 3 2 1  
Normally, we can clearly see that there are two booths of 5, two booths of 4, one booth of 3 and two booth of 2 around these three booth-0. However, since the booth-5 also connect to other booth with same kind (booth-5, at location [1,1] and [4,1] with blue color), the service may become better, so we consider the frequency of booth-5 to be total 4  
In case there are more than one kind of booths with same highest frequency, we will select the booth with higher value   
Ex : booth-5 appear 4 times, booth-1 appear also 4 times around an area of zeros, we will select booth-5 to exchange since 5 > 4   
  
Therefore, we will exchange booth-0 to booth-5 (with highest frequency)  
5 5 1 4 4  
4 5 2 4 2  
5 5 5 2 0  
5 4 3 0 1  
1 3 3 2 1  
  
Continue with other booth-0, we will get below map   
5 5 1 4 4  
4 5 2 4 2  
5 5 5 2 2  
5 4 3 3 1  
1 3 3 2 1  
  
All the booths that are same kind and next to each other (top/down/left/right) connect into an area. After exchangings are done, our manager want to know how many area that service trade-in S6 in this map.  
5 5 1 4 4  
4 5 2 4 2  
5 5 5 2 2  
5 4 3 3 1  
1 3 3 2 1  
In above example, there are total 11 areas (in each area, only one service was served)  
  
Given the map NxN of booths location, write a program to exchange booth-0 and return the number of service area in that map.  
  
[Input]  
- The number of test case T (T <= 50)  
- The size of the map N (5 <= N <= 100)  
- Detail of the map will be given at next N rows, the value C of each cell represent the service booth (0 <= C <= 5)  
5 <= The number of test case T  
5 <= Start of test case #1, N = 5  
5 5 1 4 4 <= The first line of map  
4 0 2 4 2 <= The second line of map ...  
5 0 0 2 0  
5 4 3 0 1  
1 3 3 2 1  
7 <= Start of test case #2, N = 7 ...  
0 0 0 0 0 0 0  
0 0 0 0 0 0 0  
0 0 0 0 0 0 0  
5 0 5 0 5 0 5  
0 0 0 0 0 0 0  
0 0 0 0 0 0 0  
0 0 0 0 0 0 0  
10  
1 3 5 1 4 0 0 4 2 1  
1 1 2 1 1 0 5 0 2 1  
5 0 2 0 4 4 4 0 1 1  
0 2 2 4 0 5 4 2 1 3  
1 1 2 2 2 3 3 2 1 1  
5 1 1 2 0 3 3 2 2 1  
3 1 1 1 0 0 1 2 2 5  
3 1 4 1 2 0 4 0 0 5  
4 0 3 3 1 3 3 0 0 1  
5 0 3 1 4 3 3 1 2 3  
...  
  
[Output]  
- The number of service areas  
Case #1  
11  
Case #2  
1  
Case #3  
31  
...  
  
[Constraint]  
- Each booth has maximum 4 booths around it (top/down/left/right)  
- All booth-0 locate next to each others (top/down/left/right) will be consider as an area, we need to calculate all the booths around this area.  
- There are 6 kind of booth : 0 - 5, booth 0 need to be changed to one of other (1-5)  
- We ensure there will be no case in which all booths are zero  
- All the same kind of booths which locate around each other are consider as one area.  
- Time limit : 3s for 50 TC ( C, C++ 3000 msec, Java 6000 msec)