

## Coding Arena



A B C D E F

### Problem : Image Segmentation

Consider an image represented using grid of height **H** and width **W**. This image consists of blobs. A blob is a collection of contiguous lit pixels. A non-lit pixel is represented using '.' and a lit pixel is represented using '#'.  
 In 2D, pixels are said to be contiguous if they are 8-way connected. Refer [wiki] for more details on how connections are represented mathematically.

Your task is to find the number of blobs in given grid. Also, state the number of lit pixels in each blob.

#### Input Format:

First line contains **T**, number of test cases.

Each test case consists of:

1. Grid dimensions : - Two integers **H** (height) and **W** (width)
2. The Grid : - Next H lines each comprising of W characters {'.' | '#'}

#### Output Format:

For each test case print two lines.

First line should contain the number of blobs.

Second line should contain number of lit pixels in those blobs in sorted order (smallest first) delimited by space.

#### Constraints:

1.  $1 \leq T \leq 10$
2.  $1 \leq H \leq 1000$
3.  $1 \leq W \leq 1000$

#### Sample Input and Output

SNo.	Input	Output
1	<pre> 1 6 6 #...#. .#.#.# ##..#. ..... .#.#.# #...#. </pre>	<pre> 4 2 3 4 4 </pre>

#### Note:

Please do not use package and namespace in your code. For object oriented languages your code should be written in one class.

#### Note:

Participants submitting solutions in C language should not use functions from <conio.h> / <process.h> as these files do not exist in gcc

#### Note:

For C and C++, return type of main() function should be int.

Time Left

**03 19 14**  
hr min sec

**Rules & Regulations**

**Submit Answer**

☐ I, **CHANDRAMANI ADIL** confirm that the answer submitted is my own.

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