Puzzled


## THE HOUSE DF BLACK \＆WHITE

Becoming a Faceless Man（assassin）for the House of Black and White is no easy task．A girl gave up all she was，lost her eyesight， and trained with her fellow acolytes to become just this．After many trials，she was given a final task by their leader，the priest of the Many－Faced God．
＂Explore the Hall of Faces．If you can recite to me which masks are painted black and which are painted white，you will have completed your training＂

Wandering the Hall of Faces，she committed certain features to memory：
Three columns each had two black masks which were separated from each other by white masks．These columns were also not adjacent to one another．

Two rows each had two black masks separated by white masks as well．They were also not adjacent to one another，and neither was on the top or bottom row．

There were only two location with three black masks in a line：one in the bottom row with only white masks for company；the other was in a column above a white mask and two black masks．

The third column had three masks of each color，none of which were above or below their own color．
The second row alternated from black to white，until the last mask broke the pattern．
Only once did a line of four or more masks of the same color occur：in the fourth column，there was a line of four white masks．

Exactly one row and one column started with one white mask followed by two black masks．


A girl managed to navigate the Hall of Faces，correctly reciting the faces despite her blindness．Once she exited，she looked out upon the clear night sky above the ocean．She never forgot the first thing she saw after her eyesight magically returned to her．

- Three columns each had two lone black masks. These columns were not adjacent to one another.
- Two rows each had two lone black masks as well. They were also not adjacent to one another and neither was on the top or the bottom row.


You don't get much from the first two phrases in the beginning but they are useful constraints for later.

- There were only two locations with three black masks in a line: one in the bottom row with only white masks for company; the other was in a column above a white mask and two black masks.


This phrase tells you that the bottom-right corner has to be white (since that row has a row of 3 black and the rest are white).
It also tells you that a column [312] exists (and it can't be one of the outer columns due to the position of those white masks).

- The third column had three masks of each color, none of which neighbored their own color.


Fill in the third column: since you start already knowing a black mask is at the end, you alternate the rest.

- The second row alternated from black to white, until the last mask broke the pattern.


Fill in the second row: same idea, you know a black mask, so you know the rest of the row.

- There were only two locations with three black masks in a line: one in the bottom row with only white masks for company; the other was in a column above a white mask and two black masks.


Since row 2 is filled in, you can determine which column is [312] (the fifth one). You can also fill in the bottom row to make a group of three black masks surrounded by white masks.

- Three columns each had two lone black masks. These columns were not adjacent to one another.
- Two rows each had two lone black masks as well. They were also not adjacent to one another and neither was on the top or the bottom row.


Thinking back to the first phrases: there are 3 columns with 2 separate single black masks. One must be 1st or 2nd column, and the others are 4th and 6th columns necessarily. So you can surround the black mask in the 6th column with white masks since it is in a group of one. Use the same logic on the 2 rows to place them in the 3rd and 5th rows, the only two that are not adjacent. Surround black masks with white masks in these rows as well.

- Only once did a line of four or more masks of the same color occur: in the fourth column there was a line of four white masks.


You can connect the white masks in the 4th column to make a line of four. And, since the fourth column also has two single black masks, you know the top mask must be black

- One row and one column both started the same way: one white mask followed by two black masks.


Only the 1st column and the 4th row could start with [12] so fill in those masks.

- Three columns each had two lone black masks. These columns were not adjacent to one another.
- Two rows each had two lone black masks as well. They were also not adjacent to one another and neither was on the top or the bottom row.


After this you can finish the grid since you now know which 3 columns and 2 rows have two separate single black masks. The 6th column gets its second black mask, white masks surround the first mask in the 2nd column, and the final two spaces are black masks.

