

A	b	b	b	b	w	w	w	w
B	b	b	w	w	w	w	b	b
C	b	w 3 X	b	w 2 X	w 1 X	b	w 3 X	b

1. hats cannot be all white

2. since A does not know what color hat they have, they cannot have seen two white hats, or else they would know they had a black hat, as not all hats can be white

3. A not seeing two white hats is the same as saying A saw at least one black hat between B & C. If B had seen a white hat, B would know the black hat A saw would be on their head.

The table above shows all possible options for hat color. We eliminate options based on what we know.

1. C is wearing a black hat.
2. C used logic to deduce steps 1,2,3 above 😊