Problem Tutorial: "Card flipping"

Let's call a x is *beautiful* if it's visible in one of the K cards. You can notice that some x will not be beautiful number in only one case - when every card from 1 to K is flipped to the side where x is not visible, which can be represented by a bit mask of length K. Now we can calculate for each a bit mask how many numbers it would affect (making them not *beautiful*) if we choose it. The answer would be the best mask - where number of not affected numbers is maximum. Also, if $2^K > N$, then there exists a bit mask which would not affect any number. Thus, in this case it always possible to find a bit mask where each number from 1 to N is on the visible side.