Suppose I have a strip one foot wide and $n$ feet long. I want to perfectly cover the strip using tiles. I have an unlimited supply of 1-foot squares and 1-foot by 2-foot rectangles.

1. Give a recurrence for $f(n)$, the number of ways of covering the strip.

2. Suppose that the squares come in both orange and purple, and the rectangles come in each of red, white, and blue. Give a recurrence for $g(n)$ the number of ways of covering.

3. Suppose that the tiles are colored as in the previous question, but one is not allowed to have to have two squares next to each other. Give a recurrence for $h(n)$ the number of ways of covering.