

Name: No Two Adjacent  
By Benjamin Lee

Difficulty: 5

Description: You are given  $r$  red balls and  $g$  green balls. Your job is to place these red balls and green balls in a single file line such that no two red balls are ever adjacent to each other in the line. Create an algorithm that returns the number of different arrangements of the red balls and green balls for which that is possible. Note that the red balls and green balls are indistinguishable, meaning if two green balls were to swap places in one specific arrangement, the new arrangement does not count as an extra arrangement.