Problem 14 from section 2.7:

Here is a simpler way to organize the problem. The five students who sit in the first row can choose five of the eight seats in C(8,5) ways. The four who sit in the second row can choose the seats in C(8,4) ways. The permutations of the students in the chosen seats now lead to C(8,5).(5!).C(8,4).(4!) arrangements. Now the remaining five students have to be placed in the remaining seven seats. The first student has 7 choices, the next has 6, etc. This leads to 7.6.5.4.3 ways. So the final answer is C(8,5).C(8,4).5!.4!.7.6.5.4.3.