

## COP 3503 Spring 2022 Section 2 Recitation Program #2

CD (<https://open.kattis.com/problems/dancerecital>)

For each recitation program, in order to get full credit, you must submit your solution to open.kattis.com and get your solution accepted on all test cases. (Kattis link is included above.) In addition, some of the assignments will have some separate requirements to fulfill based on your code. When submitting your work to Webcourses, please carefully read the corresponding directions document before submitting all of your files.

**NOTE: Over the course of the semester, you must submit THREE out of the five recitation programs. It is expected that while you are in recitation, you start working on each of them. But, afterwards, you can choose which three to finish up.**

### What This Program Is Testing

This problem requires finding the best ordering of upto 10 dance routines. There are a total of  $10!$  possible orderings. Since  $10! = 3628800$ , it's possible to try all orderings and simply select the best one. However, if you "evaluate" each permutation from scratch, the amount of time for each evaluation may cause a time limit exceeded. Instead, if you pre-compute some information so that you can evaluate any permutation faster by looking up what you need from the pre-computed information, then the program will run fast enough. **To get full credit, you must utilize the permutation algorithm taught in COP 3502 that we reinforced in this course during the Backtracking section of the course.**

### What to Submit

Please submit the following:

- 1) Your source file, dancerecital.java.
- 2) A screenshot of your solution's accepted status on Kattis. **(This screen shot needs to include BOTH your username and the checkmarks for all of the test cases.)**