CSCI-UA.0102-006/008 Data Structures - Recitation

Problem 1 of Lab 3 (Combinations)

By: Qi Feng

Given two integers n and k, return all possible combinations of k numbers out of $1 \cdots n$. For example, If n = 4 and k = 2, a solution is:

$$[[2,4],[3,4],[2,3],[1,2],[1,3],[1,4]]$$

Use this codes to start:

```
1 public class Combinations {
2     public List<List<Integer>> combine(int n, int k) {
3         // Your codes here.
4     }
5 }
```

Please note that you are required to use the same name of the class and the same signature of the method as is given here in your codes.

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Problem 2 of Lab 3 (Permutations)

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Given a collection of distinct numbers, return all possible permutations.
For example, $[1, 2, 3]$ have the following permutations:

$$[[1, 2, 3], [1, 3, 2], [2, 1, 3], [2, 3, 1], [3, 1, 2], [3, 2, 1]]$$

Use this codes to start:

```
1 public class Permutations {
2     public List<List<Integer>> permute (int[] nums) {
3
4     }
5 }
```

Please note that you are required to use the same name of the class and the same signature of the method as is given here in your codes.