homework1.pdf homework6.tex hw3-1a.fig.bak hw5ans.log infpost01.cpp

University of Nevada, Las Vegas Computer Science 477/677 Fall 2023

Assignment 7: Due Saturday April 27, 2024, 11:59 PM

Name:_____

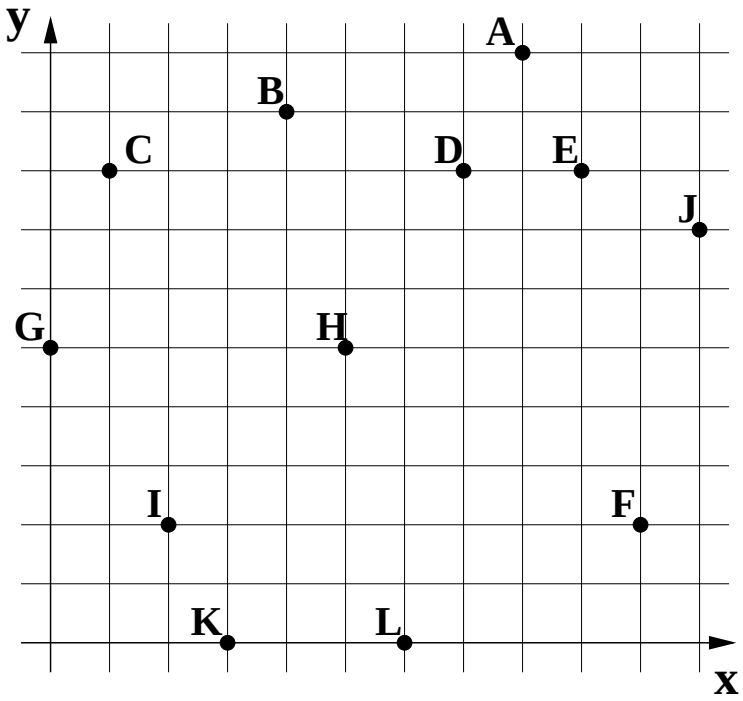
You are permitted to work in groups, get help from others, read books, and use the internet. Turn the assignment in to Canvas, following the instructions given to you by Sabrina Wallace.

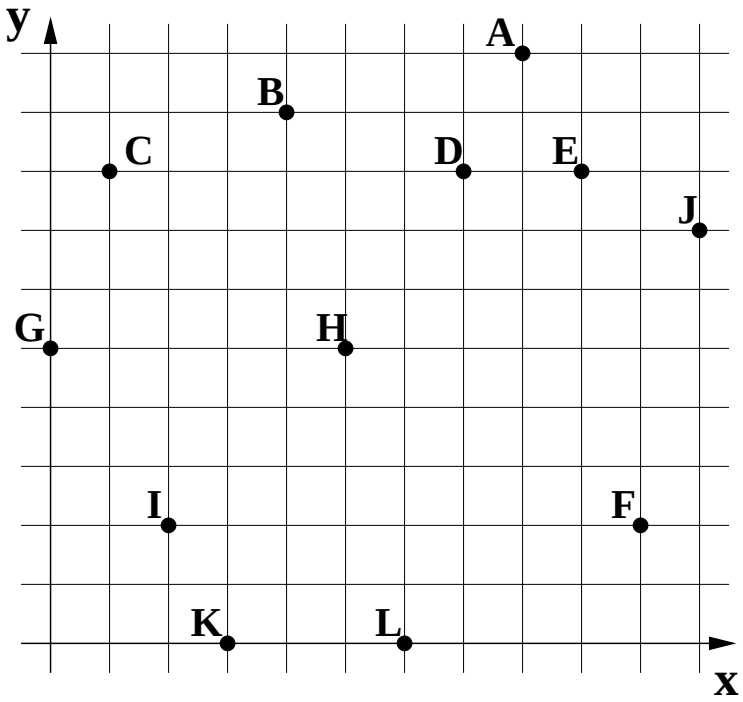
1. Levenshtein edit distance is used for approximate string matching. The levenshtein distance between two words w_1 and w_2 is the number of edits needed to change one to the other. Find the Levenshtein distance between "abbabacaa" and "babacbacab" Show the matrix.

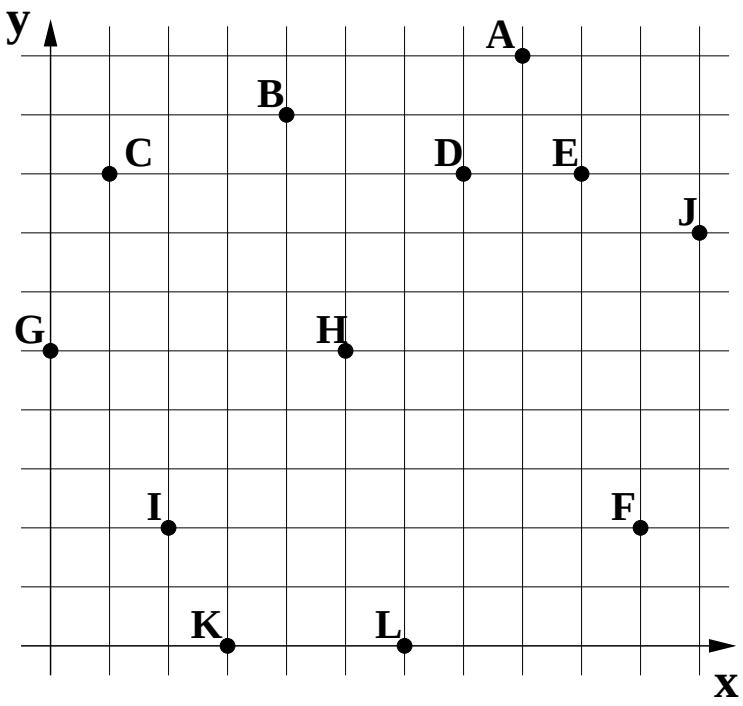
2. Write pseudocode for a dynamic programming problem that solves a variation of the coin-row problem. All coins have positive value, and the set of coins selected may not contain any three consecutive coins.

   This problem is much trickier than the original version where you may not select any two consecutive coins.

3. Use one of the algorithms shown in class to find the convex hull of the set of points shown by black dots in the figure below. Show the steps of the algorithm, making use of as many copies of the figure as you need. Attach more copies of the figure if needed.



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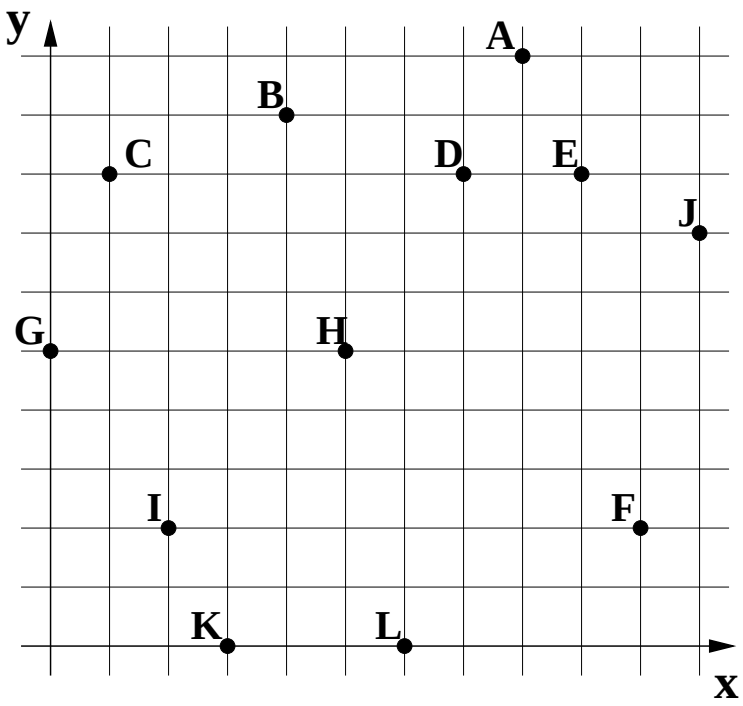
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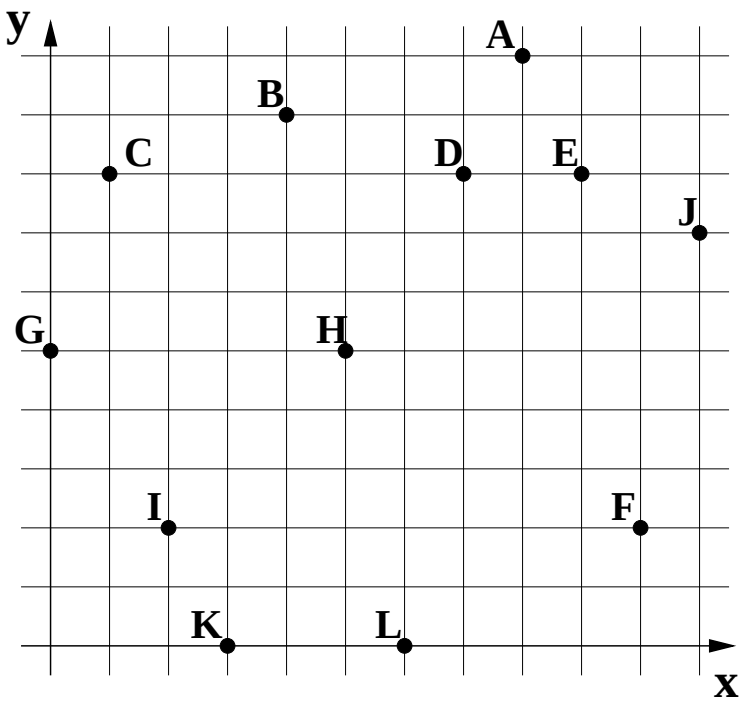
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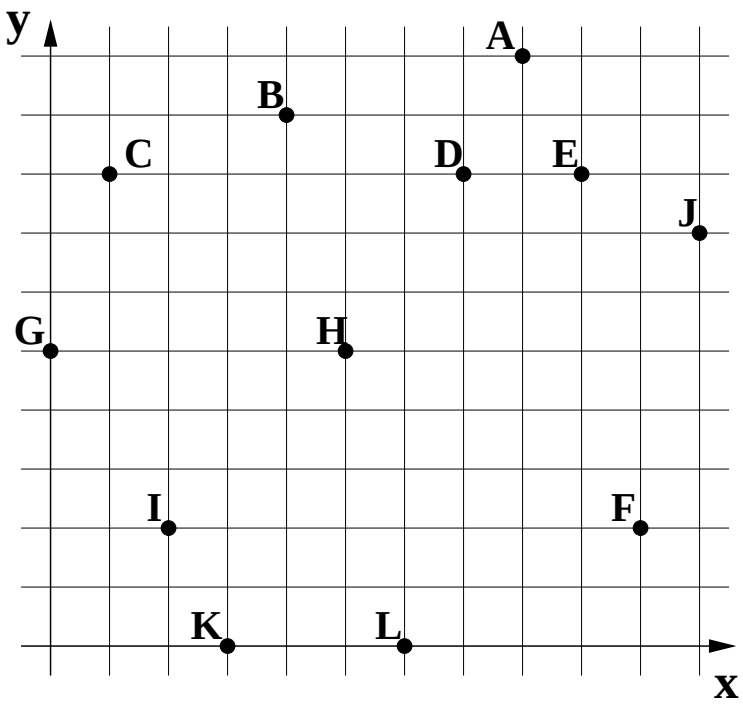
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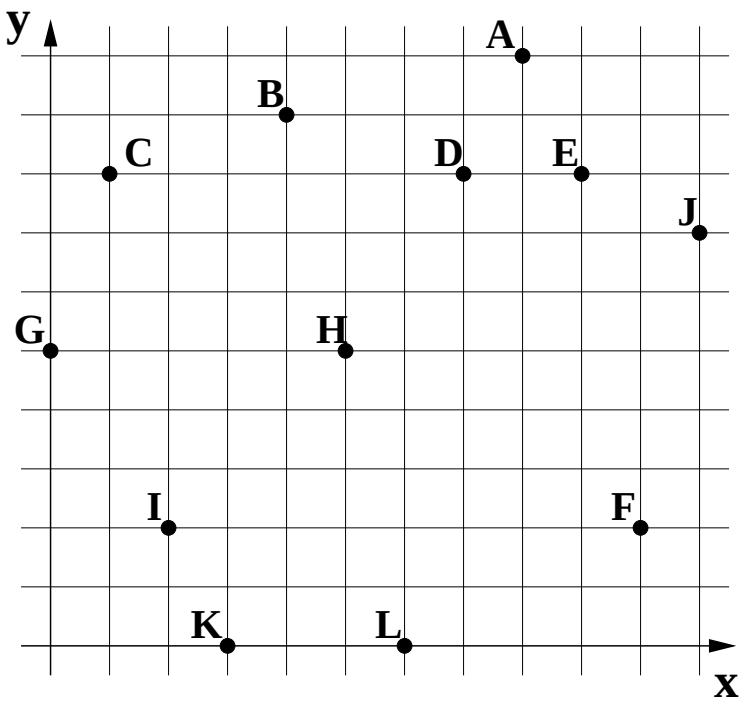
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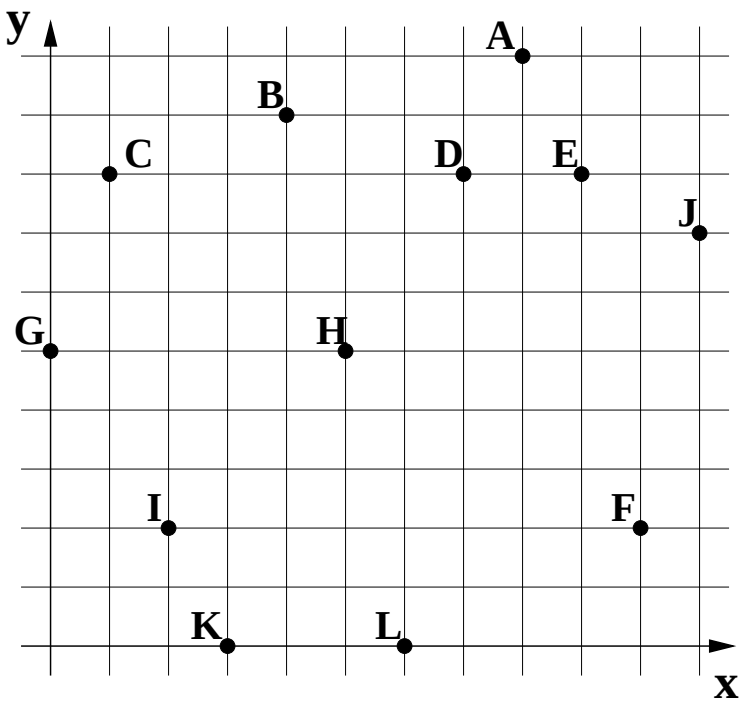
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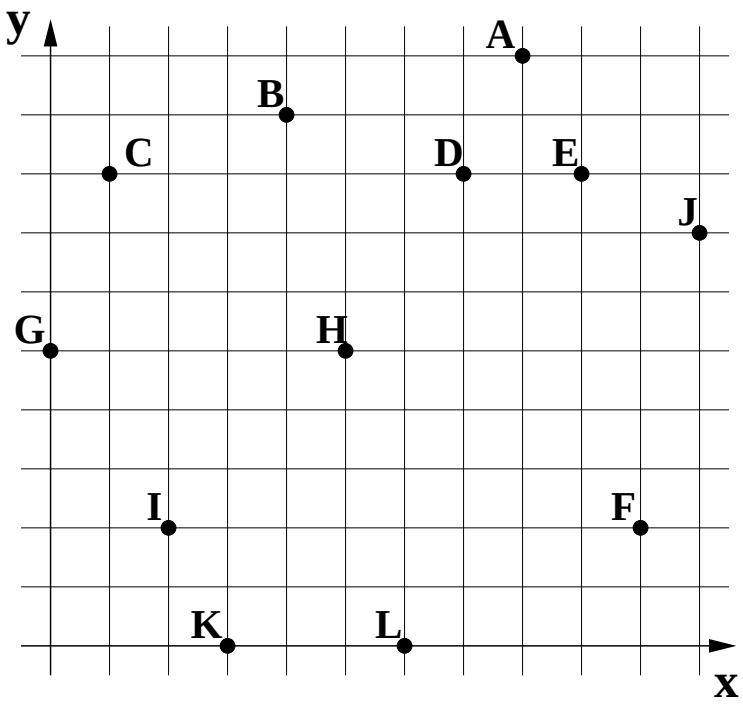
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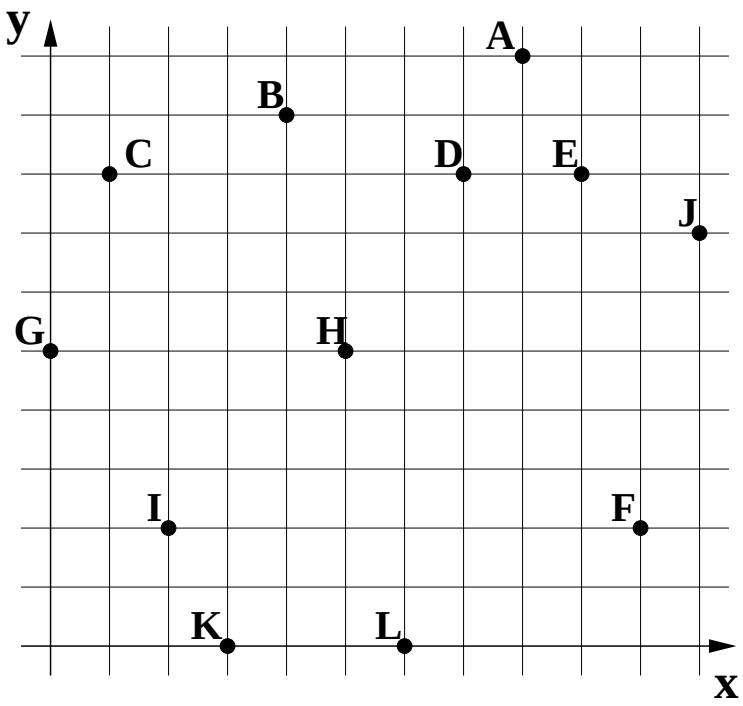
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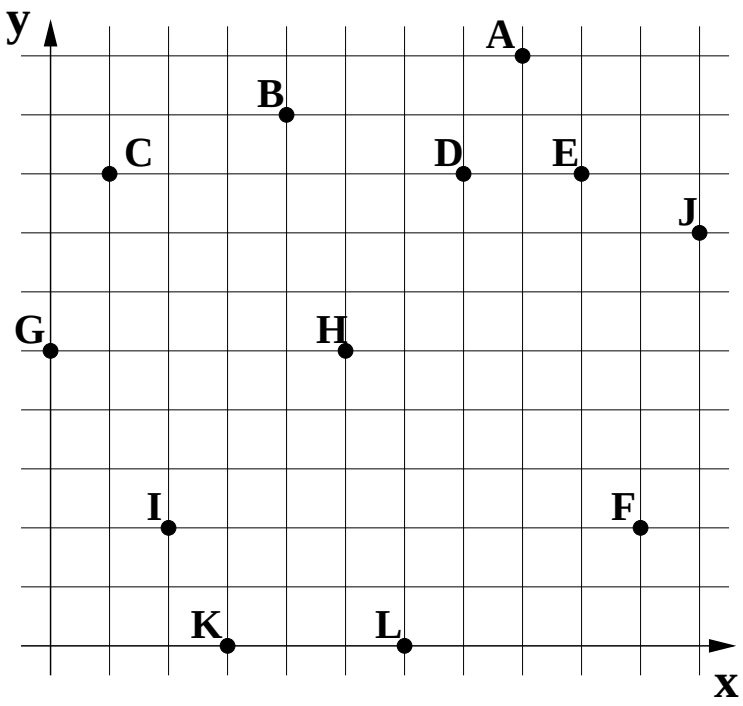
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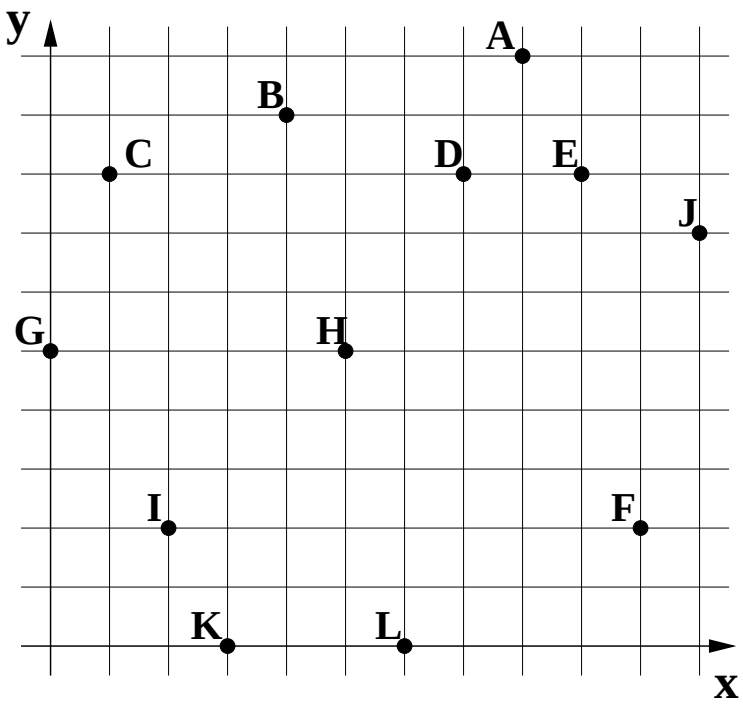
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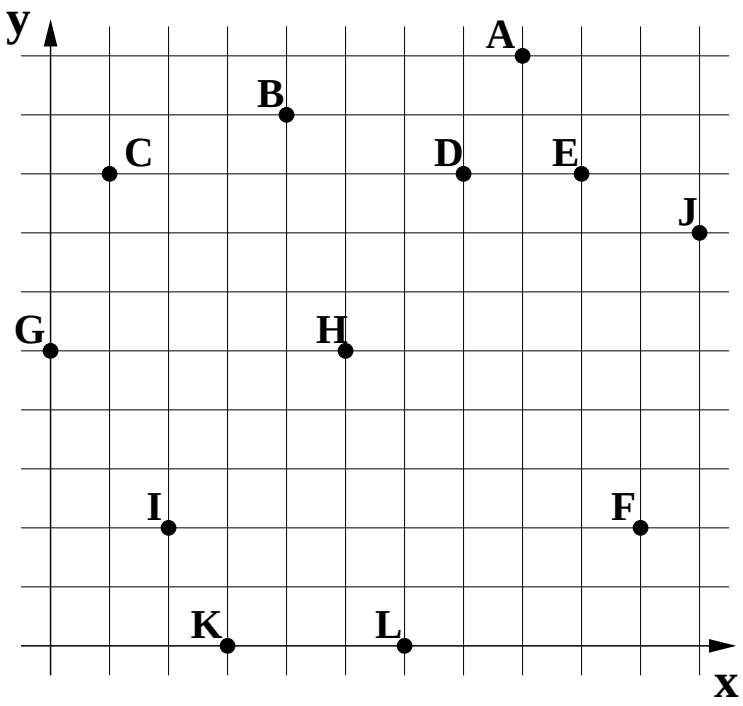
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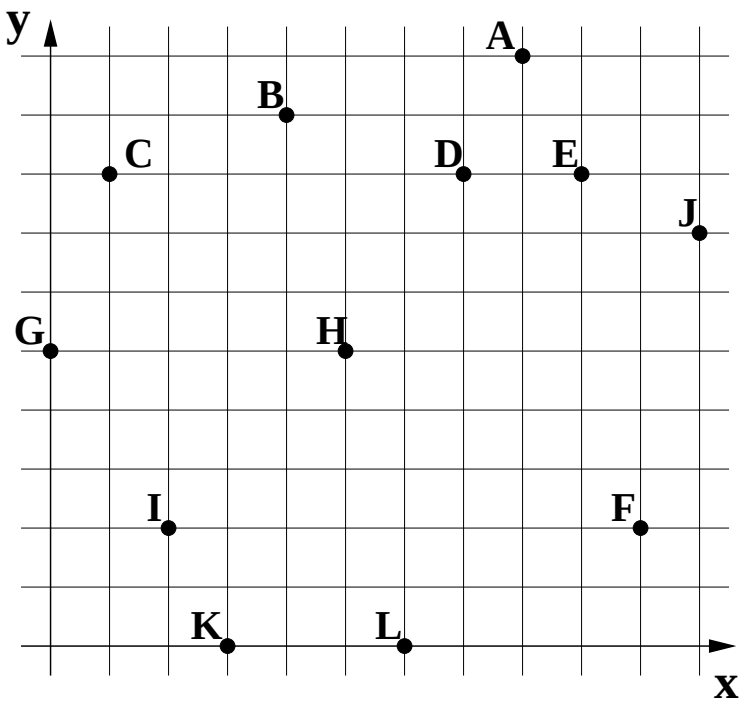
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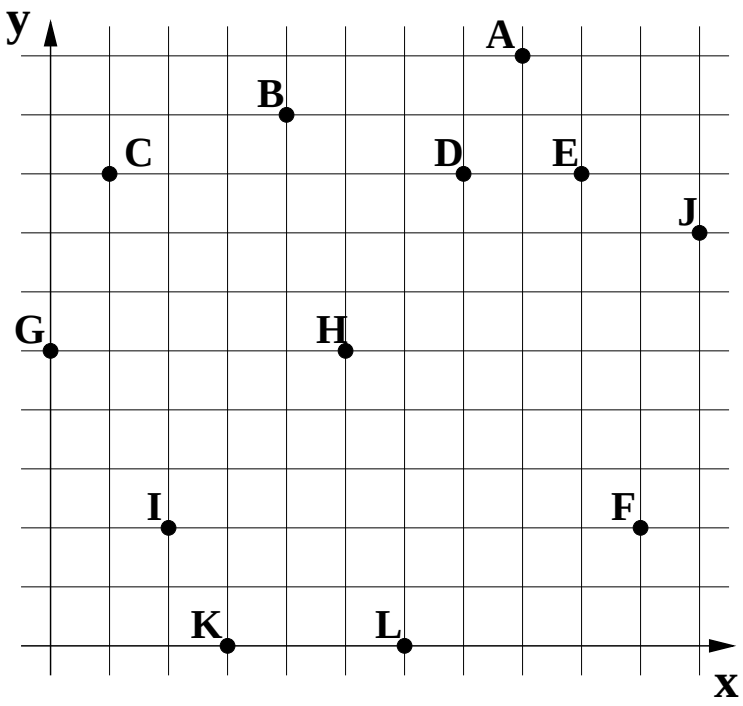
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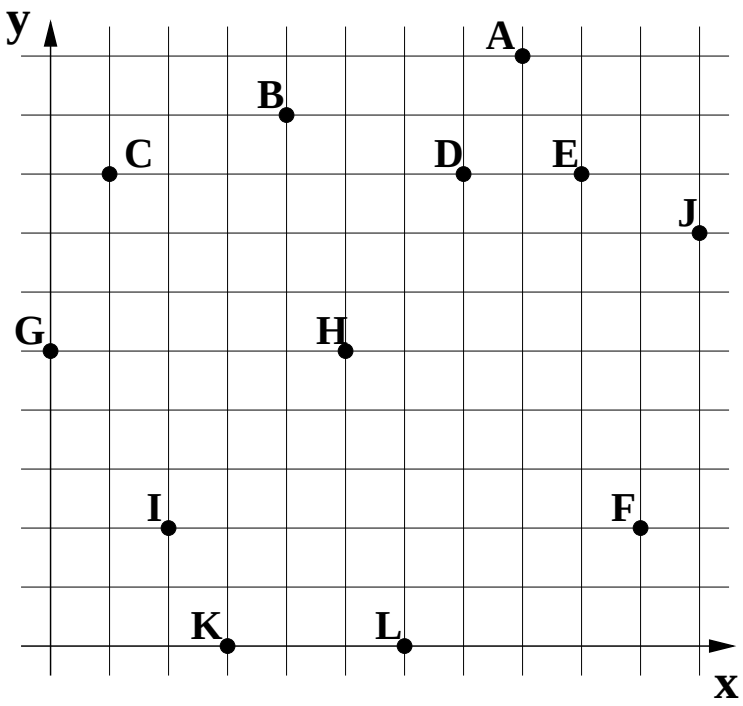
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Here are the first four steps, using an algorithm where points are sorted by their x-coordinate.