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| **Function** | **Time/comment** | **Space/comment** |
| addCompanyConstraints() | O(1) vector pushback | O(n) pushes one vector into a vector of vectors each call |
| DestroyCompany() | O(n^4) 2 for loops around backtrack function | O(n^2) vector of a vector is used to store companies |
| Backtrack() | O(n^2) nested for loops | O(1) |
| Print() | O(n^2) nested for loops | O(1) |
| Main() | O(n^4) destroy company is called | O(n^2) add company constraints which uses o(n) space is called in a for loop n times |

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| Reason | Input Data | Expected output | Actual output |
| Sample data | 10 3  5 6 2 0  1 7 3 0  2 8 4 0  5 9 3 0  4 10 1 0  1 9 8 0  2 10 9 0  6 10 3 0  4 6 7 0  5 7 8 0 | 1 3 7  2 4 6 10  5 8 9 | 1 3 7  2 4 6 10  5 8 9 |
|  | 1 3 4 5 0  5 3 4 0  1 2 6 0  5 6 1 0  3 2 1 0  1 2 3 0 | 1 2  3 4  5 6 | 1 2  3 4  5 6 |
| Test for no solution answer | 6 3  0  0  0  0  0  0 | No solution | No solution |
| Test for odd number of companies | 5 3  4 3 0  1 3 5 4 0  0  0  0  1 5  2  3 4 | 5 3  4 3 0  1 3 5 4 0  0  0  0  1 5  2  3 4 |  |
| Test companies with no compatibility | 4 3  2 3 4 0  1 3 4 0  1 2 4 0  1 2 3 0 | no solution | no solution |
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