

Ειδικά Θέματα Αλγορίθμων Ασκήσεις Φροντιστηρίου #5 Average Case and Probabilistic Analysis

1. Hiring Problem: A set of n candidates will be interviewed sequentially, each interview incurs cost c_i (small), each hire incurs cost c_h (large), to hire a new candidate we have to fire the one we hired previously.

Goal: Hire the best candidate

Find the average-case total cost for the above problem.

2. Secretary Problem: A set of n candidates will be interviewed sequentially, but this time once a candidate is hired the process stops.

Goal: Hire the best candidate

What is the optimal strategy to maximize our chances of selecting the top candidate?

3. How many people must there be in a room before there is a 50% chance that two of them were born on the same day of the year?