ATHENS UNIVERSITY
OF ECONOMICS
AND BUSINESS

ΟΙΚΟΝΟΜΙΚΟ
ΠΑΝΕΠΙΣΤΗΜΙΟ
ΑΘΗΝΩΝ

ΣΧΟΛΗ
ΕΠΙΣΤΗΜΩΝ &
ΤΕΧΝΟΛΟΓΙΑΣ
ΤΗΣ
ΠΛΗΡΟΦΟΡΙΑΣ
SCHOOL OF
INFORMATION
SCIENCES &
TECHNOLOGY

ΤΜΗΜΑ
ΠΛΗΡΟΦΟΡΙΚΗΣ
DEPARTMENT OF
INFORMATICS

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 50chance that two of them were born on the same day of the year?