

DM538 – Ugeseddel 13

Uge 50

Forelæsning mandag d. 9/12

- Afsnit 13.3: Coupon Collector's Problem
- Afsnit 13.9: Chernoff bounds

Øvelser fredag d. 13/12

1. Eksamen januar 2012 opgave 2 b)–d)
2. Udfør k -Select($S,5$) med $S = [3, 7, 10, 9, 16, 12, 4, 14, 15, 2, 6, 1, 8, 13, 11, 5]$.
Antag, at de valgte pivot-elementer er 13, 2, 9, 5 (i den rækkefølge).
Angiv k og fase-nummer for hvert kald.
3. Gennemgå analysen af k -Select.
4. Consider a very simple *online auction system*:
There are n bidding agents, and each agent has a bid. Assume that all bids are distinct from one another.
The bidding agents appear in an order chosen uniformly at random, and at all times, the system maintains a variable b^* equal to the highest bid so far.
What is the expected number of times that b^* is updated?