

DM205 – On-Line Algorithms – Lecture 3

Lecture, August 31

- Borodin & El-Yaniv, Sections 1.5–1.6.
- Borodin & El-Yaniv, Section 2.0–2.1.

Lecture, September 6

- Borodin & El-Yaniv, Sections 2.2–2.5.
- Borodin & El-Yaniv, Sections 6.0–6.1.

Lecture, September 9

- Borodin & El-Yaniv, Sections 6.2–6.3 (only sketches of the proofs).
- Borodin & El-Yaniv, Sections 12.0–12.2.

Exercises, September 13

All references are to the textbook by Borodin & El-Yaniv unless otherwise stated.

1. Exercise 2.1.
2. Exercise 2.3 (only for the static case).
3. Show that there is a request sequence on which BIT's performance ratio is no better than $\frac{7}{4}$ in the partial cost model. (It is sufficient to look at lists of length 2.)
4. Exercise 2.4. Note that the lower bound will depend on p , rather than being $2 - \varepsilon$.
5. How do you define BIT and COMB in the dynamic model?
6. Exercise 2.5.