IEOR E4601: Dynamic Pricing and Revenue Management
Lecture 8: Constrained Assortment optimization under MNL

1 Study Guide

By the end of this lecture, you should be able to

1. State the cardinality constrained assortment optimization problem.
2. Derive the alternative formulation that leads to the binary search algorithm.
3. Perform the binary search algorithm.
4. Derive the alternative formulation that leads to the direct search algorithm.
5. Perform the direct search algorithm.

2 Recall of MNL and problem statement

Discussion: Is the cardinality constraint practical? What other practical constraints might be common for assortments?

3 Binary search algorithm

Video: RELEXs approach to space and assortment planning https://www.youtube.com/watch?v=brP6nGiw-K0.

4 Worked example

5 Math programming solution