

**Foundations of Constraint Programming  
Additional Tutorial 3 (on November 23rd)**

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**Extra Exercise 3.3:**

Formulate the 2D-BinPacking Problem as constraint optimization problem.  $N$  rectangular items each with a (probably different) given height and width have to be packed into rectangular bins all of the same size  $W \times H$ . It can be assumed that the items are sorted according to non-increasing height. The goal is to minimize the number of bins needed to pack all items (the natural upper bound therefore is  $N$  – each item into one bin).