Institut for Matematik & Datalogi
Syddansk Universitet

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JBJ

DM85 Networks and Integer Programming — Ugeseddel 6

Representing all subsets of a set in OPL Let S be a set on n elements. We can represent every subset of S as a binary string with n digits in which the ith digit is 1 if and only if the corresponding set contains i (e.g. when $S = \{1, 2, 3, 4, 5, 6, 7\}$ the string 0100101 represents the subset $\{1, 3, 6\}$. Using this observation we can create all subsets of a set as follows in opl:

setof(int) vertices = 1..5 // an example with 5 vertices
int N = **pow**(2,**card**(vertices)) // N will be 2^5
setof(int) subsets[k in 1..N] = $\{i | i$ **in** *vertices* : $((k-1)$ / **pow**$(2,$ **ord**$(vertices, i)))$ **mod** $2 = 1\}$

Lecture on March 13, 2007: Primal dual algorithms. Bang-Jensen and Gutin Section 3.12

Exercises for March 16, 2007: Left over exercises from last week and the following all from Chapter 3 in Bang-Jensen and Gutin: 3.45, 3.46, 3.48, 3.49, 3.56