

Simplex Method / シンプレックス法

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Script File: system/packages/math/simplexnr.ijs

written by Henly H.ritch

following Numerical recipe in C

Example:

Maximize : $x_1 + x_2 + 3x_3 - 0.5x_4$

subject :

$$x_1 + 2x_3 \leq 740$$

$$2x_2 - 7x_4 \leq 0$$

$$x_2 - x_3 + 2x_4 \geq 0.5$$

$$x_1 + x_2 + x_3 + x_4 = 9$$

NB. simplex 1 1 3 _0.5 ; (1 0 2 0 , 0 2 0 _7 , 0 1 _1 2 ,: 1 1 1 1) ; 740 0 0.5 9 ; _1 _1 1 0
<: = : >

```
+-----+-----+-----+-----+
|1 1 3 _0.5|1 0 2 0|740 0 0.5 9|_1 _1 1 0|
|          |0 2 0 _7|          |          |
|          |0 1 _1 2|          |          |
|          |1 1 1 1|          |          |
+-----+-----+-----+-----+
```

simplexnr tmp

```
++-----+-----+
|0|0 3.325 4.725 0.95|17.025|
++-----+-----+
```

$x_1 = 0, x_2 = 3.325, x_3 = 4.725, x_4 = 0.95, \max is 17.025$

Document is written by M.shimura/Apr 2008