

Numerische Optimierung

Resultat 2

Das Programm DSPLP liefert die folgende Ausgabe:

```
NUM. OF DEPENDENT VARS., MRELAS
  1 -   1   7
NUM. OF INDEPENDENT VARS., NVAR
  1 -   1  12
DIMENSION OF COSTS(*)=
  1 -   1  12
DIMENSIONS OF BL(*),BU(*),IND(*)
PRIMAL(*),DUALS(*) =
  1 -   1  19
DIMENSION OF IBASIS(*)=
  1 -   1  19
DIMENSION OF PRGOPT(*)=
  1 -   1   7
1-NVAR=INDEPENDENT VARIABLE INDICES.
(NVAR+1)-(NVAR+MRELAS)=DEPENDENT VARIABLE INDICES.
CONSTRAINT INDICATORS ARE 1-4 AND MEAN
1=VARIABLE HAS ONLY LOWER BOUND.
2=VARIABLE HAS ONLY UPPER BOUND.
3=VARIABLE HAS BOTH BOUNDS.
4=VARIABLE HAS NO BOUNDS, IT IS FREE.
ARRAY OF COSTS
  1 -   4  2.00000D+00  6.00000D+00  5.00000D+00  7.00000D+00
  5 -   8  2.00000D+00  7.00000D+00  9.00000D+00  4.00000D+00
  9 -  12  1.00000D+00  3.00000D+00  4.00000D+00  2.00000D+00
CONSTRAINT INDICATORS
  1 -  10   1   1   1   1   1   1   1   1   1   1
 11 -  19   1   1   2   2   2   3   3   3   3   1
```

LOWER BOUNDS FOR VARIABLES (IGNORE UNUSED ENTRIES.)

1 -	4	.00000D+00	.00000D+00	.00000D+00	.00000D+00
5 -	8	.00000D+00	.00000D+00	.00000D+00	.00000D+00
9 -	12	.00000D+00	.00000D+00	.00000D+00	.00000D+00
13 -	16	.00000D+00	.00000D+00	.00000D+00	1.00000D+01
17 -	19	1.30000D+01	1.40000D+01	1.30000D+01	

UPPER BOUNDS FOR VARIABLES (IGNORE UNUSED ENTRIES.)

1 -	4	.00000D+00	.00000D+00	.00000D+00	.00000D+00
5 -	8	.00000D+00	.00000D+00	.00000D+00	.00000D+00
9 -	12	.00000D+00	.00000D+00	.00000D+00	.00000D+00
13 -	16	2.00000D+01	2.30000D+01	1.20000D+01	1.00000D+01
17 -	19	1.30000D+01	1.40000D+01	1.30000D+01	

THIS IS A MINIMIZATION PROBLEM.
 STEEPEST EDGE PRICING WAS USED.
 OUTPUT VALUE OF THE OBJECTIVE FUNCTION

1 -	1	1.84000D+02			
-----	---	-------------	--	--	--

THE OUTPUT INDEPENDENT AND DEPENDENT VARIABLES

1 -	4	5.00000D+00	1.00000D+00	1.40000D+01	.00000D+00
5 -	8	5.00000D+00	.00000D+00	.00000D+00	1.30000D+01
9 -	12	.00000D+00	1.20000D+01	.00000D+00	.00000D+00
13 -	16	2.00000D+01	1.80000D+01	1.20000D+01	1.00000D+01
17 -	19	1.30000D+01	1.40000D+01	1.30000D+01	

THE OUTPUT DUAL VARIABLES

1 -	4	.00000D+00	.00000D+00	-3.00000D+00	2.00000D+00
5 -	8	6.00000D+00	5.00000D+00	4.00000D+00	.00000D+00
9 -	12	.00000D+00	.00000D+00	3.00000D+00	.00000D+00
13 -	16	1.00000D+00	4.00000D+00	.00000D+00	2.00000D+00
17 -	19	.00000D+00	2.00000D+00	1.00000D+00	

VARIABLE INDICES IN POSITIONS 1-MRELAS ARE BASIC.

1 -	10	2	14	10	1	5	3	8	9	13	18
11 -	19	4	6	17	7	19	16	12	11	15	

NO. OF ITERATIONS
 1 - 1 9

NO. OF FULL REDECOMPS
 1 - 1 2

Das Programm PCx liefert (auszugsweise) die Ausgaben

***** PCx version 1.1 (Nov 1997) *****

Problem 'TRANSPORT ' terminated with OPTIMAL status
 Iterations=6, Termination Code=0

MPS formulation has 7 rows, 12 columns

PARAMETER SUMMARY

=====

Maximum number of iterations: 100
Tolerances: Opt=1.00e-10 PriFeas=1.00e-08 DualFeas=1.00e-08
Gondzio strategy selected: Maximum Gondzio corrections = 0
Iterative refinement performed during linear system solve
Presolving was performed:
 Before Presolving: 7 rows, 15 columns
 After Presolving: 7 rows, 15 columns (0 passes)
MINIMIZE the objective
Solution written to output file transport.out

FACTORIZATION SUMMARY

=====

code used: Ng-Peyton sparse Cholesky library
Nonzeros in L=22; Density of L=0.755102

ITERATION SUMMARY

=====

Iter	Primal	Dual	(PriInf DualInf)	log(mu)	Merit
0	3.3698e+02	2.4087e+02	(4.7e-01 4.1e-01)	0.98	3.2e+00
1	2.2046e+02	2.0692e+02	(1.1e-01 1.5e-01)	0.44	5.8e-01
2	1.9310e+02	1.8388e+02	(2.9e-02 6.8e-03)	-0.32	2.6e-01
3	1.8603e+02	1.8376e+02	(7.0e-03 7.7e-17)	-1.07	6.2e-02
4	1.8402e+02	1.8398e+02	(4.7e-05 5.4e-17)	-2.65	1.0e-03
5	1.8400e+02	1.8400e+02	(5.5e-15 7.2e-17)	-6.75	6.5e-08
6	1.8400e+02	1.8400e+02	(1.6e-15 4.3e-17)	-15.88	3.7e-15

6 iterations

Terminated with status OPTIMAL (code 0)

Primal Objective = 1.84000000e+02

Dual Objective = 1.84000000e+02

Complementarity = 2.14e-15

Relative Complementarity = 1.16e-17

Relative Infeasibilities:

Primal = 1.522e-15, Dual = 0.000e+00.

und

Solution for 'TRANSPORT '

Variables:

#	Label	Value	Reduced Cost	Lower Bound	Upper Bound
0	X11	3.4022427e+00	2.2204460e-16	0.0000000e+00	Infinity
1	X12	1.0000000e+00	8.8817842e-16	0.0000000e+00	Infinity
2	X13	1.4000000e+01	0.0000000e+00	0.0000000e+00	Infinity
3	X14	1.3940258e-19	3.0000000e+00	0.0000000e+00	Infinity
4	X21	6.5977573e+00	0.0000000e+00	0.0000000e+00	Infinity
5	X22	6.3793069e-17	1.0000000e+00	0.0000000e+00	Infinity
6	X23	6.9878564e-20	4.0000000e+00	0.0000000e+00	Infinity
7	X24	1.3000000e+01	0.0000000e+00	0.0000000e+00	Infinity
8	X31	5.6887527e-18	2.0000000e+00	0.0000000e+00	Infinity
9	X32	1.2000000e+01	0.0000000e+00	0.0000000e+00	Infinity
10	X33	4.2257911e-18	2.0000000e+00	0.0000000e+00	Infinity
11	X34	1.1791408e-16	1.0000000e+00	0.0000000e+00	Infinity