

19. feladat

$\min(9, 25)$

8	7	3	4	2	12
6	2	7	5	10	17
7	5	3	3	1	25
4	9	9	8	2	35

28 30 7 15 9

$\min(14, 30)$

8	7	3	4		12
6	2	7	5		17
7	5	3	3	9	16
4	9	9	8		35

28 30 7 15 X

Ht utolsó el utolsó!
 $\min(7, 12)$

8	7	3	4		12
	17				X
7	5	3	3	9	16
4	9	9	8		35

28 13 7 15 X

8	7	7	4		5
	17				X
7	5		3	9	16
4	9		8		35

28 13 X 15 X

8	7	7			5
	17				X
7	5		15	9	1
4	9				35

28 13 X X X

$\min(15, 16)$

	7	7			5
	17				X
	5		15	9	1
28	9				7

X 13 X X X

$\min(4, 13)$

	7	7			5
	17				X
	1		15	9	X
28	9				7

X 12 X X X

$\min(5, 12)$

8	5	7	4	2	12
6	17	7	5	10	17
7	5	3	15	9	25
4	9	9	8	2	35

28 30 7 15 9

Induló Lbm

$\min(7, 7)$

Hat. meg az opt. mő-sát a száll. fel-ra a tanult módszerrel!

	2	7	3	5	3	
0	8	5	7	3	4	2
-5	6	17	7	5	10	12
-2	7	15	3	15	9	17
2	28	9	9	8	2	25
	28	30	7	15	9	35

Induló száll. tábla

Meghat. az NBV-k
Cij értékeit!

$$\begin{aligned} u_1 &= 0 \\ u_4 + v_1 &= 4 \\ u_1 + v_2 &= 7 \\ u_2 + v_2 &= 2 \\ u_3 + v_2 &= 5 \\ u_4 + v_2 &= 9 \\ u_1 + v_3 &= 3 \\ u_3 + v_3 &= 3 \\ u_3 + v_4 &= 3 \\ u_3 + v_5 &= 1 \end{aligned}$$

$$\begin{aligned} u_1 &= 0 \\ v_2 &= 7 \\ u_2 &= -5 \\ u_3 &= -2 \\ u_4 &= 2 \\ v_1 &= 2 \\ v_3 &= 3 \\ v_4 &= 5 \\ v_5 &= 3 \end{aligned}$$

$$\begin{aligned} \bar{C}_{11} &= -6 \\ \bar{C}_{21} &= -9 \\ \bar{C}_{31} &= -7 \\ \bar{C}_{32} &= -9 \\ \bar{C}_{33} &= -2 \\ \bar{C}_{43} &= -4 \end{aligned}$$

$$\begin{aligned} \bar{C}_{14} &= 1 \\ \bar{C}_{24} &= -5 \\ \bar{C}_{44} &= -1 \\ \bar{C}_{15} &= 1 \\ \bar{C}_{25} &= -12 \\ \bar{C}_{45} &= 3 \end{aligned}$$

Mivel $\exists \bar{C}_{ij} > 0$, tovább kell menni. A legpoz. $\bar{C}_{45} = 3$, azaz x_{45} lép a bázisba!

x_{45} lépki

$\rightarrow -2$
 -1

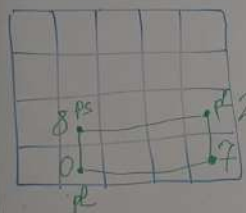
	5	7	3	5	3	
0	8	5	7	4	2	
-5	6	17	7	5	10	
-2	7	8	3	15	2	1
-1	28	9	9	8	7	2

$$\begin{aligned} u_1 &= 0 \\ u_4 + v_1 &= 4 \\ u_1 + v_2 &= 7 \\ u_2 + v_2 &= 2 \\ u_3 + v_2 &= 5 \\ u_1 + v_3 &= 3 \\ u_3 + v_4 &= 3 \\ u_3 + v_5 &= 1 \\ u_4 + v_5 &= 2 \end{aligned}$$

$$\begin{aligned} u_1 &= 0 \\ v_2 &= 7 \\ v_3 &= 3 \\ u_2 &= -5 \\ u_3 &= -2 \\ v_4 &= 5 \\ v_5 &= 3 \\ u_4 &= -1 \end{aligned}$$

$$\begin{aligned} \bar{C}_{11} &= -3 \\ \bar{C}_{21} &= -6 \\ \bar{C}_{31} &= -4 \\ \bar{C}_{42} &= -3 \\ \bar{C}_{23} &= -9 \end{aligned}$$

$$\begin{aligned} \bar{C}_{33} &= -2 \\ \bar{C}_{43} &= -7 \\ \bar{C}_{14} &= 1 \\ \bar{C}_{24} &= -5 \\ \bar{C}_{44} &= -4 \end{aligned}$$



Mivel $\exists \bar{C}_{ij} > 0$, tovább kell menni...

Legyen pl x_{14} , ami belép a bázisba.

Mivel az összes $\bar{C}_{ij} \leq 0$, ezért opt. no-suk van.

$\bar{C}_{14} = \bar{C}_{15} = 1$ a legpoz.

$\bar{C}_{11} = -4$
 $\bar{C}_{21} = -6$
 $\bar{C}_{31} = -4$
 $\bar{C}_{12} = -1$

$\bar{C}_{42} = -3$
 $\bar{C}_{23} = -8$
 $\bar{C}_{33} = -1$
 $\bar{C}_{43} = -6$

$\bar{C}_{24} = -5$
 $\bar{C}_{44} = -4$
 $\bar{C}_{45} = 0$
 $\bar{C}_{25} = -12$

$\min(5, 15) = 4$
 x_{12} lép ki

8	4	7	3	4	2
6	17	4	5	10	
7	13	3	10	2	
28	9	9	8	7	

Az opt. no értéke $4 \cdot 28 + 2 \cdot 17 + 5 \cdot 13 + 3 \cdot 7 + 4 \cdot 5 + 3 \cdot 10 + 1 \cdot 2 + 2 \cdot 7 = 298$.

22. feladat

1. lépés

8	10	9	5	2
5	8	7	1	3
11	14	10	3	4
7	12	13	1	4
11	13	12	2	3

Sormin

2	6	8	7	3	0
1	4	7	6	0	2
3	8	11	7	0	1
1	6	11	12	0	3
2	9	11	10	0	1

0 sormin 4 7 6 0 0

2. lépés

2	1	1	3	0
0	0	0	0	2
4	4	1	0	1
2	4	6	0	3
5	4	4	0	1

$m=3$
 $k=1$

3. lépés

2	1	1	4	0
0	0	0	1	2
3	3	0	0	0
1	3	0	0	2
4	3	3	0	0

1	0	0	4	0
0	0	0	2	3
3	0	0	1	1
0	2	5	0	2
3	2	2	0	0

$m=5$

$$x_{14} = x_{55} = x_{21} = x_{12} = x_{33} = 1$$

Összeállítás $7 + 4 + 8 + 7 + 1 = 29$

22. feladat

1. lépés

8	10	9	5	2
5	8	7	1	3
11	14	10	3	4
7	12	13	1	4
11	13	12	2	3

Sormin

2
1
3
1
2

6	8	7	3	0
4	7	6	0	2
8	11	7	0	1
6	11	12	0	3
9	11	10	0	1

Osztógrán $4 \ 7 \ 6 \ 0 \ 0$

2. lépés

2	1	1	3	0
0	0	0	0	2
4	4	1	0	1
2	4	6	0	3
5	4	4	0	1

$m=3$

$k=1$

3. lépés

2	1	1	4	0
0	0	0	1	2
3	3	0	0	0
3	5	0	2	
4	3	3	0	5

$m=4$

$k=1$