

Dopravní úloha

- nalezení řešení pomocí metody VAM

S_1 S_2 S_3 S_4

V_1	3	5	2	1	50
V_2	4	7	5	3	70
V_3	2	9	6	4	90
	30	40	40	100	

S_1 S_2 S_3 S_4 V_1

3

5

2

1

50 [1]

 V_2

4

7

5

3

70 [1]

 V_3

2

9

6

4

90 [2]

30

[1]

40

[2]

40

[3]

100

[2]

S_1 S_2 S_3 S_4

V_1	3	5	2	1	50 [1]
V_2	4	7	5	3	70 [1]
V_3	2	9	6	4	90 [2]
	30 [1]	40 [2]	40 [3]	100 [2]	

S_1 S_2 S_3 S_4

V_1	3	5	2	1	50 [1]
V_2	4	7	5	3	70 [1]
V_3	2	9	6	4	90 [2]
	30 [1]	40 [2]	40 [3]	100 [2]	

	S_1	S_2	S_3	S_4	
V_1	3	5	2	1	50 [2]
V_2	4	7	5	3	70 [1]
V_3	2	9	6	4	90 [2]
	30 [1]	40 [2]	40	100 [2]	

	S_1	S_2	S_3	S_4	
V_1	—	10	40	—	50 [2]
V_2	—	—	—	—	70 [1]
V_3	—	—	—	—	90 [2]
	30 [1]	40 [2]	40	100 [2]	

S_1 S_2 S_3 S_4

V_1	3 —	5 10	2 40	1 —	50
V_2	4	7	5 —	3	70 [1]
V_3	2	9	6 —	4	90 [2]
	30 [2]	40 [2]	40	100 [1]	

S_1 S_2 S_3 S_4

V_1	— 3	10 5	40 2	— 1	50
V_2	— 4	— 7	— 5	— 3	70 [1]
V_3	30 2	— 9	— 6	— 4	90 [2]
	30 [2]	40 [2]	40	100 [1]	

	S_1	S_2	S_3	S_4	
V_1	— 3	10 5	40 2	— 1	50
V_2	— 4	— 7	— 5	— 3	70 [4]
V_3	30 2	— 9	— 6	— 4	90 [5]
	30	40 [2]	40	100 [1]	

S_1 S_2 S_3 S_4

V_1	— 3	10 5	40 2	— 1	50
V_2	— 4	— 7	— 5	— 3	70 [4]
V_3	30 2	— 9	— 6	60 4	90 [5]
	30	40 [2]	40	100 [1]	

	S_1	S_2	S_3	S_4	
V_1	—	10	40	—	50
V_2	—	30	—	40	70 [4]
V_3	30	—	—	60	90 [5]
	30	40 [2]	40	100 [1]	

Cena dopravy: $10 \cdot 5 + 40 \cdot 2 + 30 \cdot 7 + 40 \cdot 3 + 30 \cdot 2 + 60 \cdot 4 = 760$

$v_1 =$ $v_2 =$ $v_3 =$ $v_4 =$

$u_1 =$	3 —	5 10	2 40	1 —	50
$u_2 =$	4 —	7 30	5 —	3 40	70
$u_3 =$	2 30	9 —	6 —	4 60	90
	30	40	40	100	

$v_1 =$ $v_2 =$ $v_3 =$ $v_4 =$

$u_1 = 0$	3 —	5 10	2 40	1 —	50
$u_2 =$	4 —	7 30	5 —	3 40	70
$u_3 =$	2 30	9 —	6 —	4 60	90
	30	40	40	100	

$v_1 =$ $v_2 = 5$ $v_3 =$ $v_4 =$ $u_1 = 0$ $u_2 =$ $u_3 =$

	3	5	2	1	
—	10	40	—	50	
4	7	5	3		
—	30	—	40	70	
2	9	6	4		
30	—	—	60	90	
30	40	40	100		

$v_1 = -1$

$v_2 = 5$

$v_3 = 2$

$v_4 = 1$

	3	5	2	1	
$u_1 = 0$	—	10	40	—	50
	4	7	5	3	
$u_2 = 2$	—	30	—	40	70
	2	9	6	4	
$u_3 = 3$	30	—	—	60	90
	30	40	40	100	

$v_1 = -1$

$v_2 = 5$

$v_3 = 2$

$v_4 = 1$

$u_1 = 0$	3 — -4	5 10	2 40	1 —	50
$u_2 = 2$	4 —	7 30	5 —	3 40	70
$u_3 = 3$	2 30	9 —	6 —	4 60	90
	30	40	40	100	

	$v_1 = -1$	$v_2 = 5$	$v_3 = 2$	$v_4 = 1$		
		3	5	2	1	
$u_1 = 0$	—	10	40	—	50	
	-4			0		
		4	7	5	3	
$u_2 = 2$	—	30	—	40	70	
	-3		-1			
		2	9	6	4	
$u_3 = 3$	30	—	—	60	90	
		-1	-1			
	30	40	40	100		

Pro všechna pomlčková pole je pomocná cena menší nebo rovna 0. Proto je toto řešení optimální a dále neupravujeme.