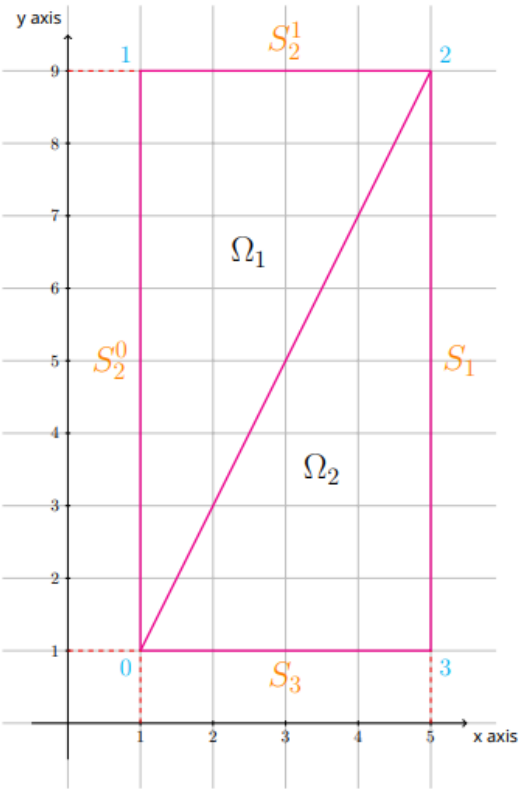
Данные задачи:

$$\begin{cases} \mu(x,y) = 10x + 10y \\ f(x,y) = 20x + 20y \\ \lambda = 4 \\ \gamma = 2 \\ \beta = 5 \\ \Omega^n, n = 1 \end{cases}$$



Краевые условия на границах:

$$\begin{cases} R_{03} = III_0 \\ R_{32} = I_0 \\ R_{21} = II_1 \\ R_{10} = II_0 \end{cases} -> \begin{cases} I_0 = 50 + 10y \\ II_0 = -40 \\ II_1 = 40 \\ III_0 = 10x + 2 \end{cases}$$

Содержимое файлов:

xy.txt

$$\begin{matrix} (1,1) \\ (1,9) \\ (5,9) \\ (5,1) \end{matrix}$$

finitel.txt

$$\begin{matrix} (0,1,2) \\ (0,2,3) \end{matrix}$$

param.txt

$$4\,2\,1\,4$$

XY_area.txt

$$\{0...0\}_4$$

area.txt

$$\begin{matrix} 2\,5 \\ \{0...0\}_2 \end{matrix}$$

boards.txt

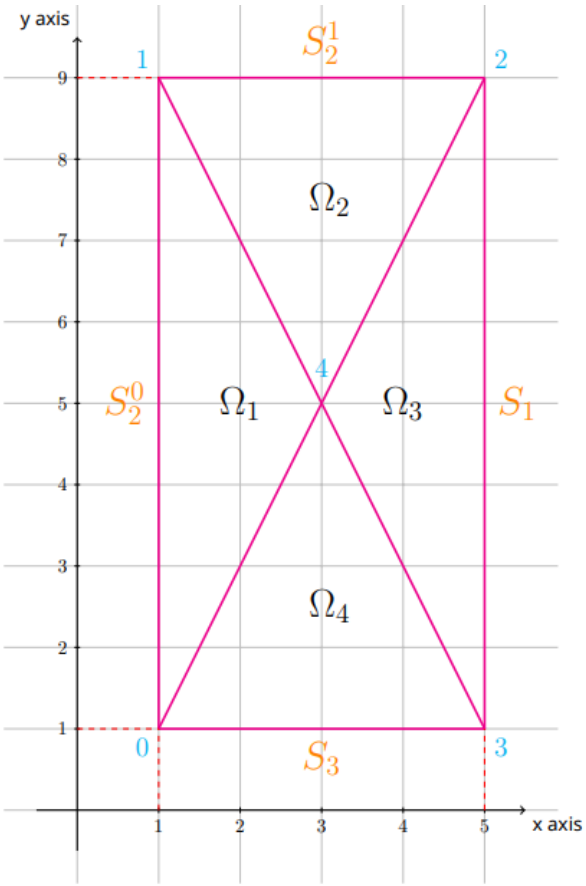
$$\begin{matrix} 0\,0\,3\,3\,0 \\ 0\,3\,2\,1\,0 \\ 0\,2\,1\,2\,1 \\ 0\,1\,0\,2\,0 \end{matrix}$$

Табличка с решением:

X`	X	|X` - X|	||X` - X||
20	19,999999999999986	1,421E-014	
100	100,00000000000006	5,684E-014	
140	139,99999999999997	2,842E-014	6,512E-014
60	60	0,000E+000	

Данные задачи:

$$\begin{cases} \mu(x,y) = 10x + 10y \\ f(x,y) = 20x + 20y \\ \lambda = 4 \\ \gamma = 2 \\ \beta = 5 \\ \Omega^n, n = 1 \end{cases}$$



Краевые условия на границах:

$$\begin{cases} R_{03} = III_0 \\ R_{32} = I_0 \\ R_{21} = II_1 \\ R_{10} = II_0 \end{cases} -> \begin{cases} I_0 = 50 + 10y \\ II_0 = -40 \\ II_1 = 40 \\ III_0 = 10x + 2 \end{cases}$$

Содержимое файлов:

xy.txt

$(1,1)$
$(1,9)$
$(5,9)$
$(5,1)$
$(3,5)$

finitel.txt

$(0,1,4)$
$(1,2,4)$
$(2,3,4)$
$(0,3,4)$

param.txt

5414

XY_area.txt

$\{0...0\}_5$

area.txt

25
$\{0...0\}_4$

boards.txt

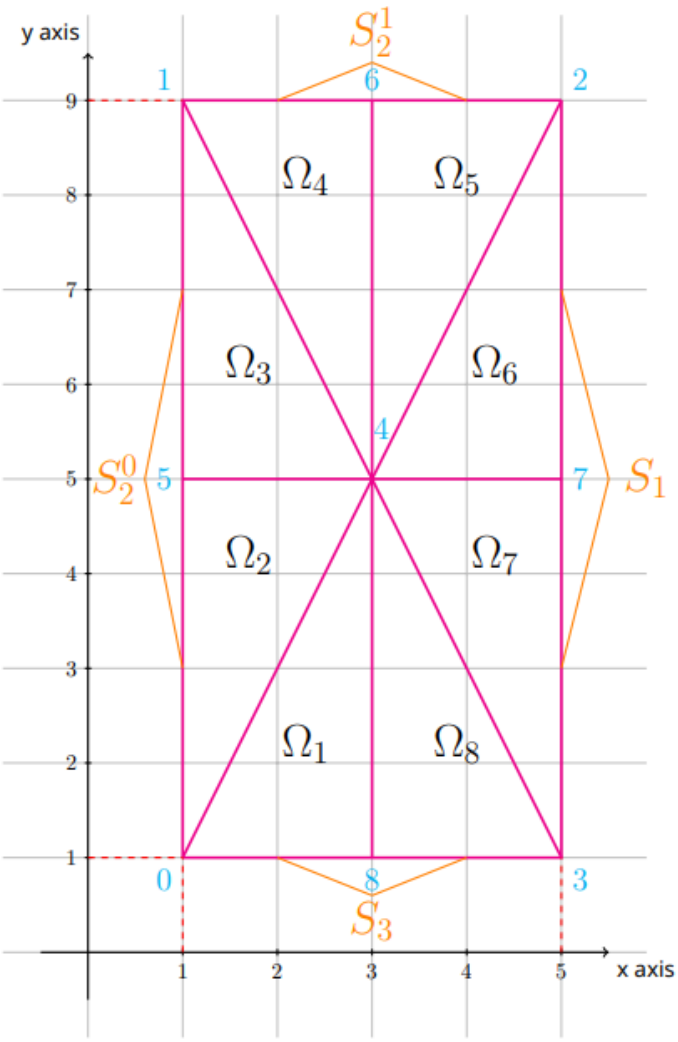
00330
03210
02121
01020

Табличка с решением:

X`	X	|X` - X|	||X` - X||
20	19,999999999999996	3,553E-015	
100	100,00000000000001	1,421E-014	
140	140	0,000E+000	2,041E-014
60	60	0,000E+000	
80	79,99999999999999	1,421E-014	

Данные задачи:

$$\begin{cases} \mu(x,y) = 10x + 10y \\ f(x,y) = 20x + 20y \\ \lambda = 4 \\ \gamma = 2 \\ \beta = 5 \\ \Omega^n, n = 1 \end{cases}$$



Краевые условия на границах:

$$\begin{cases} R_{08} = III_0 \\ R_{83} = III_0 \\ R_{37} = I_0 \\ R_{72} = I_0 \\ R_{26} = II_1 \\ R_{61} = II_1 \\ R_{15} = II_0 \\ R_{50} = II_0 \end{cases} \quad -> \begin{cases} I_0 = 50 + 10y \\ II_0 = -40 \\ II_1 = 40 \\ III_0 = 10x + 2 \end{cases}$$

Содержимое файлов:

xy.txt

$$\begin{matrix} (1,1),(1,5) \\ (1,9),(3,9) \\ (5,9),(5,5) \\ (5,1),(3,1) \\ (3,5) \end{matrix}$$

finitel.txt

$$\begin{matrix} (0,4,8),(2,4,6) \\ (0,4,5),(2,4,7) \\ (1,4,5),(3,4,7) \\ (1,4,6),(3,4,8) \end{matrix}$$

param.txt

9 8 1 8

XY_area.txt

$\{0...0\}_9$

area.txt

25

$\{0...0\}_8$

boards.txt

00830;02621

08330;06121

03710;01520

07210;05020

Табличка с решением:

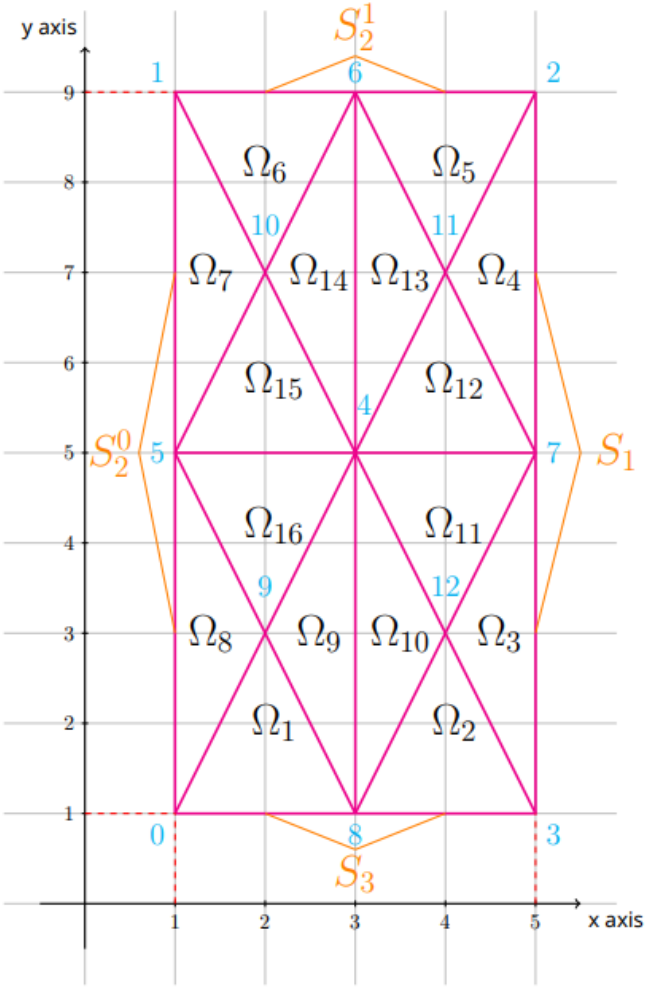
X`	X	|X` - X|	||X` - X||
20	20	0,000E+000	
100	100	0,000E+000	
140	140,00000000000003	2,842E-014	
60	60	0,000E+000	
80	80,00000000000003	2,842E-014	4,263E-014
60	60,000000000000014	1,421E-014	
120	120	0,000E+000	
100	100	0,000E+000	
40	40	0,000E+000	

Данные задачи:

$$\begin{cases} \mu(x,y) = 10x + 10y \\ f(x,y) = 20x + 20y \\ \lambda = 4 \\ \gamma = 2 \\ \beta = 5 \\ \Omega^n, n = 1 \end{cases}$$

Краевые условия на границах:

$$\begin{cases} R_{08} = III_0 \\ R_{83} = III_0 \\ R_{37} = I_0 \\ R_{72} = I_0 \\ R_{26} = II_1 \\ R_{61} = II_1 \\ R_{15} = II_0 \\ R_{50} = II_0 \end{cases} \quad -> \begin{cases} I_0 = 50 + 10y \\ II_0 = -40 \\ II_1 = 40 \\ III_0 = 10x + 2 \end{cases}$$



Содержимое файлов:

xy.txt

$(1,1),(5,5)$
$(1,9),(3,1)$
$(5,9),(2,3)$
$(5,1),(2,7)$
$(3,5),(4,7)$
$(1,5),(4,3)$
$(3,9)$

finitel.txt

$(0,8,9),\ (4,8,9)$
$(3,8,12),(4,8,12)$
$(3,7,12),(4,7,12)$
$(2,7,11),(4,7,11)$
$(2,6,11),(4,6,11)$
$(1,6,10),(4,6,10)$
$(1,5,10),(4,5,10)$
$(0,5,9),\ (4,5,9)$

param.txt

13 16 1 8

XY_area.txt

$\{0...0\}_{13}$

area.txt

25
$\{0...0\}_{16}$

boards.txt

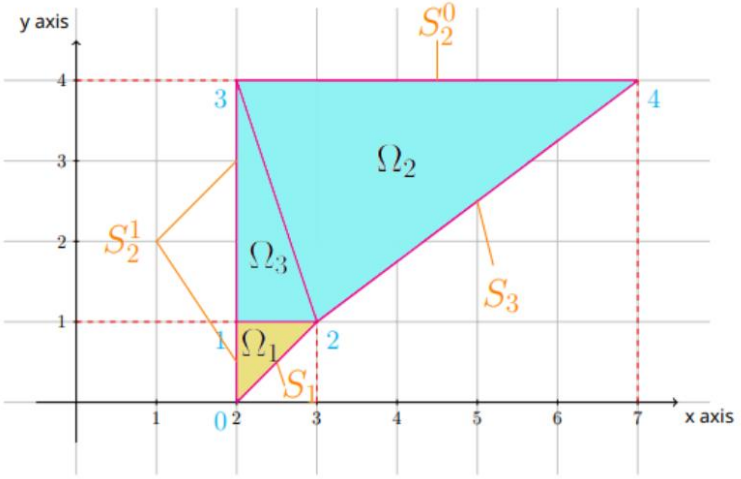
00830;02621
08330;06121
03710;01520
07210;05020

Табличка с решением:

X`	X	|X` - X|	||X` - X||
20	19,999999999999996	3,553E-015	
100	99,99999999999997	2,842E-014	
140	140	0,000E+000	
60	60,000000000000014	1,421E-014	
80	79,99999999999999	1,421E-014	
60	59,99999999999998	2,132E-014	
120	120,00000000000001	1,421E-014	7,079E-014
100	100	0,000E+000	
40	39,99999999999999	7,105E-015	
50	49,99999999999998	2,132E-014	
90	89,99999999999996	4,263E-014	
110	110	0,000E+000	
70	69,99999999999997	2,842E-014	

Данные задачи:

$$\begin{cases} \mu(x,y) = \begin{cases} y^2, & (x,y) \in \Omega^0 \\ 20y - 19, & (x,y) \in \Omega^1 \end{cases} \\ f(x,y) = \begin{cases} -20, & (x,y) \in \Omega^0 \\ 0, & (x,y) \in \Omega^1 \end{cases} \\ \lambda = \begin{cases} 10, & (x,y) \in \Omega^0 \\ 1, & (x,y) \in \Omega^1 \end{cases} \\ \gamma = 0 \\ \beta = 2 \\ \Omega^n, n = 2 \end{cases}$$



Краевые условия на границах:

$$\begin{cases} R_{01} = II_1 \\ R_{13} = II_1 \\ R_{34} = II_0 \\ R_{42} = III_0 \\ R_{20} = I_0 \end{cases} -> \begin{cases} I_0 = y^2 \\ II_0 = 20 \\ II_1 = 0 \\ III_0 = 20y - 27 \end{cases}$$

Содержимое файлов:

xy.txt

$$\begin{matrix} (2,0) \\ (2,1) \\ (3,1) \\ (2,4) \\ (7,4) \end{matrix}$$

finitel.txt

$$\begin{matrix} (0,1,2) \\ (1,2,3) \\ (2,3,4) \end{matrix}$$

param.txt

$$5\ 3\ 2\ 5$$

XY_area.txt

$$\left[\{0..0\}_3, \{1..1\}_2\right]$$

area.txt

$$\begin{matrix} 0\ 2 \\ 0\ 2 \\ 0\ 1\ 1 \end{matrix}$$

boards.txt

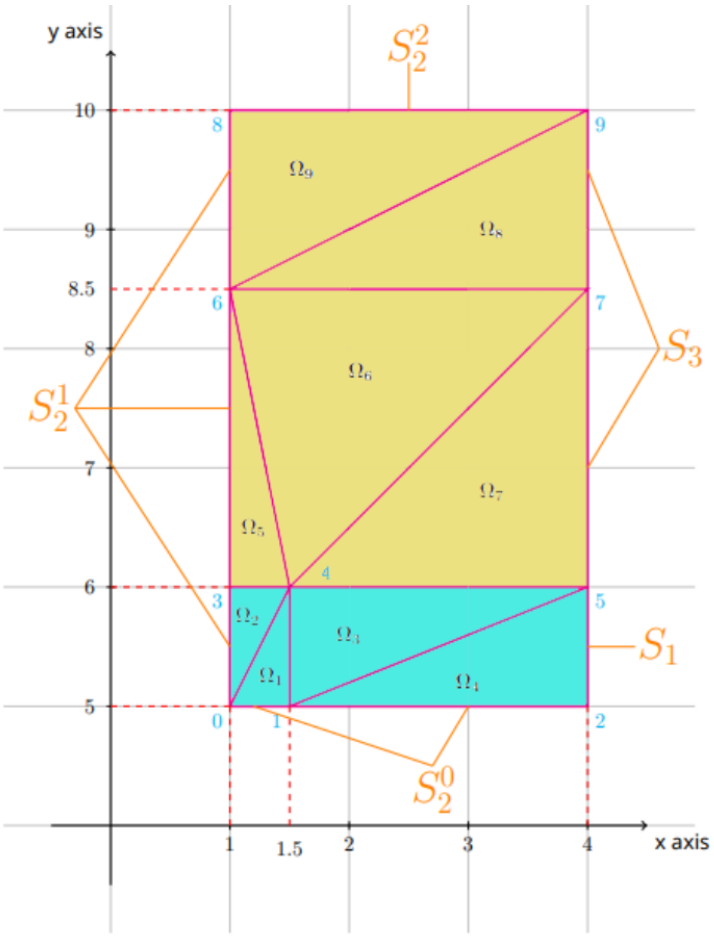
$$\begin{matrix} 00121 \\ 11321 \\ 13420 \\ 14230 \\ 00210 \end{matrix}$$

Табличка с решением:

X`	X	|X` - X|	||X` - X||
0	0	0,000E+000	
1	1,1335811106252733	1,336E-001	
1	0,9999999999999999	1,110E-016	6,636E-001
61	60,350677743769126	6,493E-001	
61	60,9704853519895	2,951E-002	

Данные задачи:

$$\begin{cases} \mu(x,y) = x + 6y - 2 \\ f(x,y) = \begin{cases} 5x + 30y - 10, & (x,y) \in \Omega^1 \\ 0, & (x,y) \in \Omega^2 \end{cases} \\ \lambda = 1 \\ \gamma = \begin{cases} 5, & (x,y) \in \Omega^1 \\ 0, & (x,y) \in \Omega^2 \end{cases} \\ \beta = 10 \\ \Omega^n,\ n = 2 \end{cases}$$



Краевые условия на границах:

$$\begin{cases} R_{01} = II_0 \\ R_{12} = II_0 \\ R_{25} = I_0 \\ R_{57} = III_0 \\ R_{79} = III_0 \\ R_{98} = II_2 \\ R_{86} = II_1 \\ R_{63} = II_1 \\ R_{30} = II_1 \end{cases} \rightarrow \begin{cases} I_0 = 6y + 2 \\ II_0 = -6 \\ II_1 = -1 \\ II_2 = 6 \\ III_0 = 6y + 2.1 \end{cases}$$

Содержимое файлов:

xy.txt

$(1,5),\ (4,6)$
$(1.5,5),(1,8.5)$
$(4,5),\ (4,8.5)$
$(1,6),\ (1,10)$
$(1.5,6),\ (4,10)$

finitel.txt

$(0,1,4),(4,6,7)$
$(0,3,4),(4,5,7)$
$(1,4,5),(6,7,9)$
$(1,2,5),(6,8,9)$
$(3,4,6)$

param.txt

10 9 2 9

XY_area.txt

$\left[\{0..0\}_3, \{1..1\}_7\right]$

area.txt

5 10
0 10
$\{0..0\}_4, \{1..1\}_5$

boards.txt

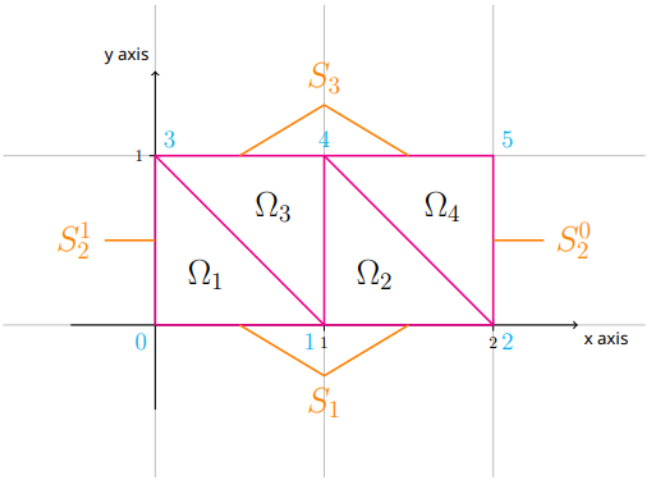
02510,16321
15730,03021
17930,00120
19822,01220
18621,

Табличка с решением:

X`	X	|X` - X|	||X` - X||
29	29,000000000000004	3,553E-015	
29,5	29,499999999999993	7,105E-015	
32	32,000000000000014	1,421E-014	
35	34,99999999999999	7,105E-015	
35,5	35,50000000000001	7,105E-015	
38	38	0,000E+000	2,161E-014
50	50	0,000E+000	
53	53	0,000E+000	
59	58,99999999999999	7,105E-015	
62	61,99999999999999	7,105E-015	

Данные задачи:

$$\begin{bmatrix} \mu(x,y) = x \\ f(x,y) = 2x \\ \lambda = 1 \\ \gamma = 2 \\ \beta = 2 \\ \Omega^n, n = 1 \end{bmatrix}$$



Краевые условия на границах:

$$\begin{bmatrix} R_{01} = I_0 \\ R_{12} = I_0 \\ R_{25} = II_0 \\ R_{54} = III_0 \\ R_{43} = III_0 \\ R_{30} = II_1 \end{bmatrix} \rightarrow \begin{cases} I_0 = x \\ II_0 = 1 \\ II_1 = -1 \\ III_0 = x \end{cases}$$

Содержимое файлов:

xy.txt

$$\begin{bmatrix} (0,0) \\ (1,0) \\ (2,0) \\ (0,1) \\ (1,1) \\ (2,1) \end{bmatrix}$$

finitel.txt

$$\begin{bmatrix} (0,1,3) \\ (1,3,4) \\ (1,2,4) \\ (2,4,5) \end{bmatrix}$$

param.txt

$$\begin{bmatrix} 6 & 4 & 1 & 6 \end{bmatrix}$$

XY_area.txt

$$\begin{bmatrix} \{0..0\}_6 \end{bmatrix}$$

area.txt

$$\begin{bmatrix} 2 & 2 \\ \{0..0\}_4 \end{bmatrix}$$

boards.txt

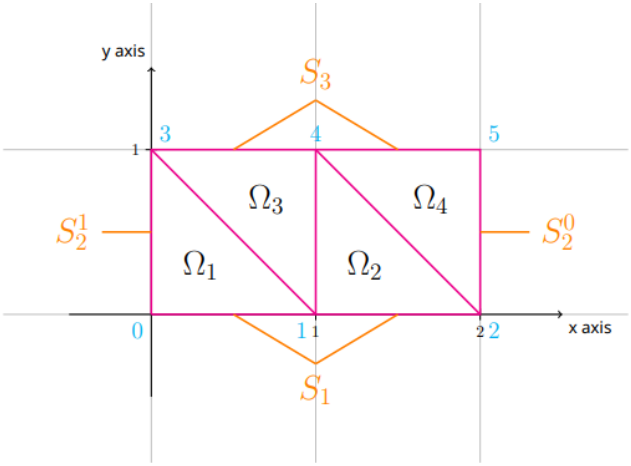
$$\begin{bmatrix} 02520 \\ 04530 \\ 03430 \\ 01210 \\ 00321 \\ 00122 \end{bmatrix}$$

Табличка с решением:

X`	X	|X` - X|	||X` - X||
0	1,8312852319637973E-18	1,831E-018	
1	1,0000000000000002	2,220E-016	
2	2,0000000000000004	4,441E-016	
0	-4,324103195733203E-18	4,324E-018	6,662E-016
1	1	0,000E+000	
2	1,9999999999999996	4,441E-016	

Данные задачи:

$$\begin{bmatrix} \mu(x,y) = x \\ f(x,y) = 2x \\ \lambda = x \\ \gamma = 2 \\ \beta = 2 \\ \Omega^n, n = 1 \end{bmatrix}$$



Краевые условия на границах:

$$\begin{bmatrix} R_{01} = I_0 \\ R_{12} = I_0 \\ R_{25} = II_0 \\ R_{54} = III_0 \\ R_{43} = III_0 \\ R_{30} = II_1 \end{bmatrix} \rightarrow \begin{cases} I_0 = x \\ II_0 = x \\ II_1 = -x \\ III_0 = x \end{cases}$$

Содержимое файлов:

xy.txt

$$\begin{bmatrix} (0,0) \\ (1,0) \\ (2,0) \\ (0,1) \\ (1,1) \\ (2,1) \end{bmatrix}$$

finitel.txt

$$\begin{bmatrix} (0,1,3) \\ (1,3,4) \\ (1,2,4) \\ (2,4,5) \end{bmatrix}$$

param.txt

$$\begin{bmatrix} 6 & 4 & 1 & 6 \end{bmatrix}$$

XY_area.txt

$$\begin{bmatrix} \{0..0\}_6 \end{bmatrix}$$

area.txt

$$\begin{bmatrix} 2 & 2 \\ \{0..0\}_4 \end{bmatrix}$$

boards.txt

$$\begin{bmatrix} 02520 \\ 04530 \\ 03430 \\ 01210 \\ 00321 \\ 00122 \end{bmatrix}$$

Табличка с решением:

X`	X	|X` - X|	||X` - X||
0	0,3726235741444867	3,726E-001	
1	0,9999999999999999	1,110E-016	
2	1,9999999999999998	2,220E-016	
0	0,23574144486692014	2,357E-001	4,679E-001
1	1,1292775665399242	1,293E-001	
2	2,088212927756654	8,821E-002	