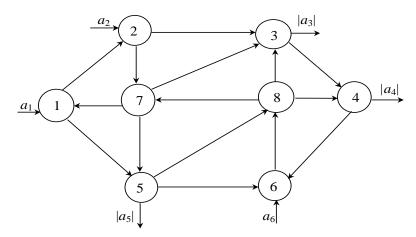
Используя данные табл. 3.3a и 3.3b для сети, изображенной на рис. 3.23, сформировать сетевые транспортные задачи и решить их. Выяснить, является ли оптимальный сетевой поток единственным или нет.



Puc. 3.23

*табл. 3.3а* 

|         | Варианты |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|---------|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|         | 1        | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| $a_1$   | 95       | 90 | 90 | 80 | 60 | 70 | 40 | 50 | 44 | 60 | 70 | 40 | 70 | 80 | 40 |
| $a_2$   | 40       | 50 | 40 | 60 | 40 | 60 | 67 | 43 | 50 | 42 | 46 | 45 | 51 | 60 | 68 |
| $ a_3 $ | 50       | 50 | 62 | 40 | 50 | 55 | 50 | 30 | 20 | 40 | 95 | 50 | 40 | 40 | 30 |
| $ a_4 $ | 60       | 70 | 46 | 62 | 50 | 60 | 60 | 50 | 70 | 30 | 35 | 40 | 70 | 60 | 50 |
| $ a_5 $ | 45       | 40 | 40 | 60 | 30 | 40 | 20 | 40 | 30 | 60 | 10 | 30 | 40 | 70 | 60 |
| $a_6$   | 20       | 20 | 18 | 22 | 30 | 25 | 23 | 27 | 26 | 28 | 24 | 35 | 29 | 30 | 32 |

|              | Варианты |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|--------------|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|              | 1        | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| $d_{12}^{*}$ | 70       | 60 | 65 | 50 | 40 | 40 | 35 | 36 | 30 | 35 | 50 | 38 | 41 | 40 | 42 |
| $d_{15}^{*}$ | 80       | 70 | 75 | 60 | 50 | 55 | 50 | 52 | 45 | 40 | 45 | 23 | 45 | 57 | 56 |
| $d_{23}^{*}$ | 60       | 65 | 60 | 55 | 50 | 50 | 45 | 47 | 45 | 40 | 50 | 48 | 40 | 35 | 39 |
| $d_{27}^{*}$ | 70       | 68 | 65 | 50 | 40 | 45 | 40 | 42 | 45 | 50 | 55 | 59 | 40 | 38 | 43 |
| $d_{34}^{*}$ | 37       | 45 | 40 | 45 | 40 | 55 | 45 | 40 | 56 | 50 | 47 | 46 | 40 | 42 | 38 |
| $d_{46}^{*}$ | 20       | 20 | 25 | 18 | 20 | 25 | 20 | 19 | 20 | 20 | 23 | 24 | 20 | 25 | 29 |
| $d_{56}^{*}$ | 30       | 25 | 30 | 25 | 25 | 27 | 20 | 19 | 21 | 25 | 24 | 22 | 20 | 22 | 25 |
| $d_{58}^{*}$ | 15       | 15 | 20 | 15 | 20 | 22 | 20 | 18 | 19 | 20 | 21 | 23 | 20 | 26 | 30 |
| $d_{68}^{*}$ | 40       | 38 | 36 | 42 | 40 | 44 | 41 | 45 | 40 | 46 | 37 | 50 | 50 | 46 | 48 |

| $d_{71}^{*}$ | 10 | 10 | 12 | 10 | 15 | 13 | 10 | 12 | 14 | 15 | 11 | 16 | 20 | 28 | 24 |
|--------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| $d_{73}^{*}$ | 50 | 45 | 47 | 40 | 45 | 44 | 40 | 35 | 37 | 40 | 46 | 44 | 40 | 35 | 31 |
| $d_{75}^{*}$ | 20 | 20 | 18 | 16 | 15 | 17 | 15 | 19 | 20 | 37 | 21 | 22 | 25 | 40 | 39 |
| $d_{83}^{*}$ | 15 | 15 | 20 | 15 | 20 | 19 | 15 | 14 | 15 | 17 | 18 | 20 | 25 | 20 | 21 |
| $d_{84}^{*}$ | 30 | 31 | 25 | 27 | 30 | 28 | 20 | 19 | 20 | 18 | 17 | 26 | 50 | 30 | 32 |
| $d_{87}^{*}$ | 10 | 10 | 15 | 15 | 20 | 18 | 10 | 17 | 19 | 16 | 12 | 13 | 15 | 20 | 25 |

Таблица 3.3б

|                 | Варианты |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|-----------------|----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
|                 | 1        | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 |
| C12             | 2        | 5  | 10 | 3  | 4  | 10 | 4  | 5  | 9  | 7  | 3  | 20 | 7  | 17 | 10 |
| C15             | 3        | 4  | 8  | 6  | 20 | 8  | 6  | 9  | 10 | 9  | 10 | 15 | 8  | 18 | 9  |
| $c_{23}$        | 5        | 3  | 4  | 5  | 10 | 6  | 9  | 8  | 15 | 10 | 18 | 10 | 9  | 19 | 13 |
| $c_{27}$        | 7        | 2  | 5  | 4  | 18 | 5  | 8  | 6  | 21 | 12 | 4  | 5  | 5  | 15 | 14 |
| <b>C</b> 34     | 4        | 7  | 3  | 8  | 25 | 20 | 7  | 13 | 4  | 14 | 16 | 7  | 10 | 5  | 10 |
| C46             | 1        | 4  | 8  | 3  | 34 | 10 | 5  | 15 | 18 | 12 | 4  | 9  | 15 | 10 | 5  |
| C56             | 10       | 9  | 2  | 1  | 7  | 13 | 6  | 4  | 6  | 10 | 5  | 11 | 17 | 7  | 6  |
| C58             | 8        | 3  | 5  | 9  | 8  | 10 | 11 | 1  | 5  | 6  | 11 | 13 | 10 | 5  | 10 |
| C <sub>68</sub> | 7        | 2  | 10 | 4  | 15 | 10 | 12 | 4  | 14 | 8  | 15 | 11 | 8  | 16 | 8  |
| C71             | 6        | 6  | 9  | 15 | 21 | 20 | 15 | 9  | 17 | 3  | 13 | 15 | 6  | 12 | 6  |
| <b>C</b> 73     | 5        | 4  | 13 | 9  | 25 | 20 | 3  | 21 | 3  | 15 | 6  | 17 | 4  | 8  | 4  |
| C75             | 4        | 8  | 6  | 10 | 17 | 4  | 7  | 25 | 8  | 7  | 9  | 18 | 15 | 20 | 10 |
| C <sub>83</sub> | 3        | 11 | 15 | 18 | 15 | 10 | 8  | 13 | 10 | 14 | 10 | 6  | 10 | 6  | 3  |
| C84             | 8        | 15 | 10 | 9  | 10 | 9  | 16 | 14 | 5  | 9  | 11 | 4  | 8  | 4  | 5  |
| C87             | 2        | 20 | 15 | 7  | 10 | 8  | 19 | 15 | 3  | 20 | 13 | 2  | 12 | 6  | 12 |