**Даненко, Мощонский, Харлова ИКПИ-23**

**Практическая 1. Вариант 19.**

**Целевая функция:**

max(15x1 +3x2 +7x3 +5x4 +15x5 +23x6 +12x7)

**Избавляемся от неравенств:**

−6x1 +9x2 +13x3 +18x4 +8x5 +21x6 −6x7 = 63

25x1 +19x2 −9x3 −7x4 +25x5 −6x6 +2x7 = 51

−7x1 +10x2 +5x3 +3x4 +25x5 −2x6 +14x7 >= 44

27x1 +2x2 +22x3 +5x4 +19x5 −2x6 +15x7 >= 80

25x1 +17x2 +22x3 +11x4 +13x5 +x6 +25x7 <= 121

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−6x1 +9x2 +13x3 +18x4 +8x5 +21x6 −6x7 = 63

25x1 +19x2 −9x3 −7x4 +25x5 −6x6 +2x7 = 51

−7x1 +10x2 +5x3 +3x4 +25x5 −2x6 +14x7 >= 44 + х8

27x1 +2x2 +22x3 +5x4 +19x5 −2x6 +15x7 >= 80 + х9

25x1 +17x2 +22x3 +11x4 +13x5 +x6 +25x7 + х10 <= 121

-----------------------------------------------------------

−6x1 +9x2 +13x3 +18x4 +8x5 +21x6 −6x7 +0 +0 +0 = 63

25x1 +19x2 −9x3 −7x4 +25x5 −6x6 +2x7 +0 +0 +0 = 51

−7x1 +10x2 +5x3 +3x4 +25x5 −2x6 +14x7 -х8 +0 +0 = 44

27x1 +2x2 +22x3 +5x4 +19x5 −2x6 +15x7 +0 -х9 +0 = 80

25x1 +17x2 +22x3 +11x4 +13x5 +x6 +25x7 +0 +0 +х10 = 121

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**Матричная форма:**

A =

|−6 9 13 18 8 21 -6 0 0 0|

|25 19 −9 −7 25 −6 2 0 0 0|

|−7 10 5 3 25 -2 14 -1 0 0|

|27 2 22 5 19 −2 15 0 -1 0|

|25 17 22 11 13 1 25 0 0 1|

B =

| 63 |

| 51 |

| 44 |

| 80 |

| 121 |

С =

| 15 |

| 3 |

| 7 |

| 5 |

| 15 |

| 23 |

| 12 |

| 0 |

| 0 |

| 0 |

X =

| x1 |

| x2 |

| x3 |

| x4 |

| x5 |

| x6 |

| x7 |

| x8 |

| x9 |

|x10 |

**Векторная форма:**

−6x1 +9x2 +13x3 +18x4 +8x5 +21x6 −6x7 +0 +0 +0 = 63

25x1 +19x2 −9x3 −7x4 +25x5 −6x6 +2x7 +0 +0 +0 = 51

−7x1 +10x2 +5x3 +3x4 +25x5 −2x6 +14x7 -х8 +0 +0 = 44

27x1 +2x2 +22x3 +5x4 +19x5 −2x6 +15x7 +0 -х9 +0 = 80

25x1 +17x2 +22x3 +11x4 +13x5 +x6 +25x7 +0 +0 +х10 = 121

С = | 15, 3, 7, 5, 15, 23, 12, 0, 0, 0 |

X = | x1, x2, x3, x4, x5, x6, x7, x8, x9, x10 |

A1 A2 A3 A4 A5 A6 A7

| -6 | | 9 | | 13 | | 18 | | 8 | | 21 | | -6 |

| 25 | | 19 | | -9 | | -7 | | 25 | | -6 | | 2 |

| -7 | | 10 | | 5 | | 3 | | 25 | | -2 | | 14 |

| 27 | | 2 | | 22 | | 5 | | 19 | | -2 | | 15 |

| 25 | | 17 | | 22 | | 11 | | 13 | | 1 | | 25 |

A8 A9 A10

| 0 | | 0 | | 0 |

| 0 | | 0 | | 0 |

| -8 | | 0 | | 0 |

| 0 | | -9 | | 0 |

| 0 | | 0 | | 10 |

B =

| 63 |

| 51 |

| 44 |

| 80 |

| 121 |