**Informações Iniciais:**

|  |
| --- |
| **MAX Z:  5x1 + 1x2 + 3x3 + 4x4  Regras:  1x1 + -2x2 + 4x3 + 3x4 <= 20 -4x1 + 6x2 + 5x3 + -4x4 <= 40 2x1 + -3x2 + 3x3 + 8x4 <= 50  Quantidade maxima iterações: 10** |

**Tabela Inicial:**

| **Base** | **x1** | **x2** | **x3** | **x4** | **f1** | **f2** | **f3** | **b** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **f1** | **1** | **-2** | **4** | **3** | **1** | **0** | **0** | **20** |
| **f2** | **-4** | **6** | **5** | **-4** | **0** | **1** | **0** | **40** |
| **f3** | **2** | **-3** | **3** | **8** | **0** | **0** | **1** | **50** |
| **z** | **-5** | **-1** | **-3** | **-4** | **0** | **0** | **0** | **0** |

**Iteracao: 1**

**Menor valor encontrado: -5**

**Efetuando divisão:**

|  |
| --- |
| **Regras:  1\* - f1 - 20 2\* - f2 - -10 3\* - f3 - 25** |

**Menor valor encontrado apos a divisao: 20**

**Entra: x1 Sai: f1**

**Pivo: 1**

**Tabela Após dividir pelo pivo:**

| **Base** | **x1** | **x2** | **x3** | **x4** | **f1** | **f2** | **f3** | **b** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **x1** | **1** | **-2** | **4** | **3** | **1** | **0** | **0** | **20** |
| **f2** | **-4** | **6** | **5** | **-4** | **0** | **1** | **0** | **40** |
| **f3** | **2** | **-3** | **3** | **8** | **0** | **0** | **1** | **50** |
| **z** | **-5** | **-1** | **-3** | **-4** | **0** | **0** | **0** | **0** |

**Tabela Após processo de divisao por linha:**

**Processo Linha: 2**

**ValorEspecial: 4**

**1 \* 4 + -4 = 0**

**-2 \* 4 + 6 = -2**

**4 \* 4 + 5 = 21**

**3 \* 4 + -4 = 8**

**1 \* 4 + 0 = 4**

**0 \* 4 + 1 = 1**

**0 \* 4 + 0 = 0**

**20 \* 4 + 40 = 120**

**Processo Linha: 3**

**ValorEspecial: -2**

**1 \* -2 + 2 = 0**

**-2 \* -2 + -3 = 1**

**4 \* -2 + 3 = -5**

**3 \* -2 + 8 = 2**

**1 \* -2 + 0 = -2**

**0 \* -2 + 0 = 0**

**0 \* -2 + 1 = 1**

**20 \* -2 + 50 = 10**

**Processo Linha: 4**

**ValorEspecial: 5**

**1 \* 5 + -5 = 0**

**-2 \* 5 + -1 = -11**

**4 \* 5 + -3 = 17**

**3 \* 5 + -4 = 11**

**1 \* 5 + 0 = 5**

**0 \* 5 + 0 = 0**

**0 \* 5 + 0 = 0**

**20 \* 5 + 0 = 100**

**Tabela final da iteracao:**

| **Base** | **x1** | **x2** | **x3** | **x4** | **f1** | **f2** | **f3** | **b** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **x1** | **1** | **-2** | **4** | **3** | **1** | **0** | **0** | **20** |
| **f2** | **0** | **-2** | **21** | **8** | **4** | **1** | **0** | **120** |
| **f3** | **0** | **1** | **-5** | **2** | **-2** | **0** | **1** | **10** |
| **z** | **0** | **-11** | **17** | **11** | **5** | **0** | **0** | **100** |

**Iteracao: 2**

**Menor valor encontrado: -11**

**Efetuando divisão:**

|  |
| --- |
| **Regras:  1\* - x1 - -10 2\* - f2 - -60 3\* - f3 - 10** |

**Menor valor encontrado apos a divisao: 10**

**Entra: x2 Sai: f3**

**Pivo: 1**

**Tabela Após dividir pelo pivo:**

| **Base** | **x1** | **x2** | **x3** | **x4** | **f1** | **f2** | **f3** | **b** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **x1** | **1** | **-2** | **4** | **3** | **1** | **0** | **0** | **20** |
| **f2** | **0** | **-2** | **21** | **8** | **4** | **1** | **0** | **120** |
| **x2** | **0** | **1** | **-5** | **2** | **-2** | **0** | **1** | **10** |
| **z** | **0** | **-11** | **17** | **11** | **5** | **0** | **0** | **100** |

**Tabela Após processo de divisao por linha:**

**Processo Linha: 1**

**ValorEspecial: 2**

**0 \* 2 + 1 = 1**

**1 \* 2 + -2 = 0**

**-5 \* 2 + 4 = -6**

**2 \* 2 + 3 = 7**

**-2 \* 2 + 1 = -3**

**0 \* 2 + 0 = 0**

**1 \* 2 + 0 = 2**

**10 \* 2 + 20 = 40**

**Processo Linha: 2**

**ValorEspecial: 2**

**0 \* 2 + 0 = 0**

**1 \* 2 + -2 = 0**

**-5 \* 2 + 21 = 11**

**2 \* 2 + 8 = 12**

**-2 \* 2 + 4 = 0**

**0 \* 2 + 1 = 1**

**1 \* 2 + 0 = 2**

**10 \* 2 + 120 = 140**

**Processo Linha: 4**

**ValorEspecial: 11**

**0 \* 11 + 0 = 0**

**1 \* 11 + -11 = 0**

**-5 \* 11 + 17 = -38**

**2 \* 11 + 11 = 33**

**-2 \* 11 + 5 = -17**

**0 \* 11 + 0 = 0**

**1 \* 11 + 0 = 11**

**10 \* 11 + 100 = 210**

**Tabela final da iteracao:**

| **Base** | **x1** | **x2** | **x3** | **x4** | **f1** | **f2** | **f3** | **b** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **x1** | **1** | **0** | **-6** | **7** | **-3** | **0** | **2** | **40** |
| **f2** | **0** | **0** | **11** | **12** | **0** | **1** | **2** | **140** |
| **x2** | **0** | **1** | **-5** | **2** | **-2** | **0** | **1** | **10** |
| **z** | **0** | **0** | **-38** | **33** | **-17** | **0** | **11** | **210** |

**Iteracao: 3**

**Menor valor encontrado: -38**

**Efetuando divisão:**

|  |
| --- |
| **Regras:  1\* - x1 - -6.6666666666667 2\* - f2 - 12.727272727273 3\* - x2 - -2** |

**Menor valor encontrado apos a divisao: 12.727272727273**

**Entra: x3 Sai: f2**

**Pivo: 11**

**Tabela Após dividir pelo pivo:**

| **Base** | **x1** | **x2** | **x3** | **x4** | **f1** | **f2** | **f3** | **b** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **x1** | **1** | **0** | **-6** | **7** | **-3** | **0** | **2** | **40** |
| **x3** | **0** | **0** | **1** | **1.0909090909091** | **0** | **0.090909090909091** | **0.18181818181818** | **12.727272727273** |
| **x2** | **0** | **1** | **-5** | **2** | **-2** | **0** | **1** | **10** |
| **z** | **0** | **0** | **-38** | **33** | **-17** | **0** | **11** | **210** |

**Tabela Após processo de divisao por linha:**

**Processo Linha: 1**

**ValorEspecial: 6**

**0 \* 6 + 1 = 1**

**0 \* 6 + 0 = 0**

**1 \* 6 + -6 = 0**

**1.0909090909091 \* 6 + 7 = 13.545454545455**

**0 \* 6 + -3 = -3**

**0.090909090909091 \* 6 + 0 = 0.54545454545455**

**0.18181818181818 \* 6 + 2 = 3.0909090909091**

**12.727272727273 \* 6 + 40 = 116.36363636364**

**Processo Linha: 3**

**ValorEspecial: 5**

**0 \* 5 + 0 = 0**

**0 \* 5 + 1 = 1**

**1 \* 5 + -5 = 0**

**1.0909090909091 \* 5 + 2 = 7.4545454545455**

**0 \* 5 + -2 = -2**

**0.090909090909091 \* 5 + 0 = 0.45454545454545**

**0.18181818181818 \* 5 + 1 = 1.9090909090909**

**12.727272727273 \* 5 + 10 = 73.636363636364**

**Processo Linha: 4**

**ValorEspecial: 38**

**0 \* 38 + 0 = 0**

**0 \* 38 + 0 = 0**

**1 \* 38 + -38 = 0**

**1.0909090909091 \* 38 + 33 = 74.454545454545**

**0 \* 38 + -17 = -17**

**0.090909090909091 \* 38 + 0 = 3.4545454545455**

**0.18181818181818 \* 38 + 11 = 17.909090909091**

**12.727272727273 \* 38 + 210 = 693.63636363636**

**Tabela final da iteracao:**

| **Base** | **x1** | **x2** | **x3** | **x4** | **f1** | **f2** | **f3** | **b** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **x1** | **1** | **0** | **0** | **13.545454545455** | **-3** | **0.54545454545455** | **3.0909090909091** | **116.36363636364** |
| **x3** | **0** | **0** | **1** | **1.0909090909091** | **0** | **0.090909090909091** | **0.18181818181818** | **12.727272727273** |
| **x2** | **0** | **1** | **0** | **7.4545454545455** | **-2** | **0.45454545454545** | **1.9090909090909** | **73.636363636364** |
| **z** | **0** | **0** | **0** | **74.454545454545** | **-17** | **3.4545454545455** | **17.909090909091** | **693.63636363636** |

**Iteracao: 4**

**Menor valor encontrado: -17**

**Efetuando divisão:**

|  |
| --- |
| **Regras:  1\* - x1 - -38.787878787879 2\* - Não efetua divisão 3\* - x2 - -36.818181818182** |

**SOLUÇÃO ILIMITADA!**