Texto

Descripción generada automáticamente

1. Representación gráfica:

Gráfico, Gráfico de líneas

Descripción generada automáticamente

1. Planteo de variables slacks.

-2 X1 + X2 + X3 = 2

X1 – X2 + X4 = 2

X1 + X2 + X5 = 5

Z = 10 X1 + 3X2 + 0 X3 + 0 X4 + 0 X5

1. Tabla inicial

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 10 | 3 | 0 | 0 | 0 |  |
| **C** | **X** | **B** | **X1** | **X2** | **X3** | **X4** | **X5** | **θ** |
| 0 | X3 | 2 | -2 | 1 | 1 | 0 | 0 | - |
| 0 | X4 | 2 | 1 | -1 | 0 | 1 | 0 | - |
| 0 | X5 | 5 | 1 | 1 | 0 | 0 | 1 | - |
| Z = 0 | | | -10 | -3 | 0 | 0 | 0 |  |

Todavía no estamos en el óptimo.

Variable que entra: por convención elijo la de mayor valor absoluto. Entra 🡪 X1

Variable que sale: X1 y X2 tienen valores negativos y por lo tanto el **θ** quedaría con valores negativos, cosa que no puede pasar. Elijo que salga X4.

1. Sale X4 y entra X1 🡪 Pivote = 1

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 10 | 3 | 0 | 0 | 0 |  |
| **C** | **X** | **B** | **X1** | **X2** | **X3** | **X4** | **X5** | **θ** |
| 0 | X3 | 6 | 0 | -1 | 1 | 2 | 0 | - |
| 10 | X1 | 2 | 1 | -1 | 0 | 1 | 0 | - |
| 0 | X5 | 3 | 0 | 2 | 0 | -1 | 1 | - |
| Z = 20 | | | 0 | -13 | 0 | 0 | 0 |  |

Todavía no estamos en el óptimo.

Variable que entra: por convención elijo la de mayor valor absoluto. Entra 🡪 X2

Variable que sale: X2 tienen valores negativos y por lo tanto el **θ** quedaría con valores negativos, cosa que no puede pasar. Elijo que salga X5.

1. Sale X5 y entra X2 🡪 Pivote = 2

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 10 | 3 | 0 | 0 | 0 |  |
| **C** | **X** | **B** | **X1** | **X2** | **X3** | **X4** | **X5** | **θ** |
| 0 | X3 | 15/2 | 0 | 0 | 1 | 3/2 | 1/2 | - |
| 10 | X1 | 7/2 | 1 | 0 | 0 | 1 | 1/2 | - |
| 3 | X2 | 3/2 | 0 | 1 | 0 | -1/2 | 1/2 | - |
| Z = 79/2 | | | 0 | 0 | 0 | 0 | 0 |  |

**¡Llegamos al optimo!**

Z = 79/2

X1 = 7/2, X2 =3/2, X3=15/2, X4=0, X5=0