Texto, Carta

Descripción generada automáticamente

**Representación gráfica:**

Gráfico, Gráfico de líneas

Descripción generada automáticamente

Paso a igualdades agregando slacks:

2 x1 + 4 x2 + x3 = 48

4 x1 + 2 x2 + x4 = 60

3 x1 + x5 = 45

Z(MAX) = 6 x1 + 4 x2 + 0 x3 + 0 x4 + 0 x5

Armo la tabla inicial:

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 6 | 4 | 0 | 0 | 0 |  |
| Ck | Xk | Bk | X1 | X2 | X3 | X4 | X5 | Tita |
| 0 | X3 | 48 | 2 | 4 | 1 | 0 | 0 | 24 |
| 0 | X4 | 60 | 4 | 2 | 0 | 1 | 0 | 15 |
| 0 | X5 | 45 | 3 | 0 | 0 | 0 | 1 | 15 |
| Z = 0 | | | -6 | -4 | 0 | 0 | 0 |  |

No estamos en el óptimo, es un problema de máximo por lo tanto 🡪 Zj – Cj >= 0 para todo j.

Variable que entra: X1

Variable que sale: puedo elegir entre X4 y X5 🡪 Sale X4

Entra X1 y sale X4

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 6 | 4 | 0 | 0 | 0 |  |
| Ck | Xk | Bk | X1 | X2 | X3 | X4 | X5 | Tita |
| 0 | X3 | 18 | 0 | 3 | 1 | -1/2 | 0 | 6 |
| 6 | X1 | 15 | 1 | 1/2 | 0 | 1/4 | 0 | 15/2 |
| 0 | X5 | 0 | 0 | -3/2 | 0 | -3/4 | 1 | - |
| Z = 90 | | | 0 | -1 | 0 | 3/2 | 0 |  |

No estamos en el óptimo. ¡Hay un punto degenerado!

Debe entrar x2 y sale: X3 (El tita de X5 es 0 / -1,5 🡪 0 “negativo” no es válido).

Entra X2 y sale X3

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | 6 | 4 | 0 | 0 | 0 |  |
| Ck | Xk | Bk | X1 | X2 | X3 | X4 | X5 | Tita |
| 4 | X2 | 6 | 0 | 1 | 1/3 | -1/6 | 0 |  |
| 6 | X1 | 12 | 1 | 0 | -1/6 | 1/3 | 0 |  |
| 0 | X5 | 9 | 0 | 0 | 1/2 | -1 | 1 |  |
| Z = 96 | | | 0 | 0 | 1/3 | 4/3 | 0 |  |

¡Estamos en el óptimo!

Z = 96

X1 = 12

X2 = 6

X5 = 9

X3 = X4 = 0