**Programação Dinâmica**

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**1)**

-XA1 - XA2 = -1

XA1 - X13 - X14 = 0

XA2 - X23 - X24 = 0

X3B + X4B = 1

C: 2XA1 + 5 XA2 + 6 X13 + 2X14 + 4X24 + 1X23 + 6X3B + 3X4B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | B | X3 | f |  |
| 3 | 6 + 0 = 6 | B | 6 |  |
| 4 | 3 + 0 = 3 | B | 3 |  |
|  |  |  |  |  |
|  | 3 | 4 | X2 | f |
| 1 | 6 + 6 = 12 | 2 + 3 = 5 | 4 | 5 |
| 2 | 1 + 6 = 7 | 4 + 3 = 7 | 3 ou 4 | 7 |
|  |  |  |  |  |
|  | 1 | 2 | X1 | f |
| A | 2 + 5 = 7 | 5 + 7 = 12 | 1 | 7 |

A - 1 - 4 - B

C: 7

**2)**

ch - Chapecó

jo - Joaçaba

la - Lages

jv - Joinvile

cs - Caxias do Sul

fl - Florianópolis

so - Sombrio

po - Porto Alegre

C: 400 Xch-jo + 950 Xch-la + 800 Xch-jv + 1800 Xjo-cs + 800 Xjo-fl +950 Xla-cs+

600 Xla-fl + 600 Xjo-fl + 1200 Xjo-so + 250 Xcs-bo + 1300 Xfl-bo + 1700 Xso-po

-Xch-jo - Xch-la - Xch-jv = -1

+Xch-jo - Xjo-cs - Xjo-fl = 0

+Xch-la - Xla-cs - Xla-fl = 0

+Xch-jv - Xjv-fl - Xjv-so = 0

+Xjo-cs + Xla-cs - Xcs-po = o

+Xjo-fl + Xla-fl + Xjv-fl - Xfl-po = 0

+Xjv-so - Xso-po = 0

Xcs-po + Xfl-po + Xso-po = 1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |
|  | po | X1 | f |  |  |
| cs | 250 + 0 = 250 | po | 250 |  |  |
| fl | 1300 + 0 = 1300 | po | 1300 |  |  |
| so | 700 + 0 = 700 | po | 700 |  |  |
|  |  |  |  |  |  |
|  | cs | fl | so | X2 | f |
| jo | 1800 + 250 = 2050 | 800 + 1300 = 2100 | - | jo | 2050 |
| la | 950 + 250 = 1200 | 600 + 1300 = 1900 | - | cs | 1200 |
| jv | - | 600 + 1300 = 1900 | 1200 + 700 = 1900 | fl e so | 1900 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  | jo | la | jv | X3 | f |
| ch | 400 + 2050 = 2450 | 950 + 1200 = 2150 | 800 + 1900 = 2700 | la | 2150 |

ch – la – cs – po

C: 2150