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Q1 Use o método iterativo de Jacobi, com estimativa inicial $X^{(1)} = [-2.6, 1.5, -0.7, -3.8, 4.5, -0.0, -1.0]$, para encontrar a aproximação $X^{(10)}$ da solução do sistema

$$\begin{cases}
12.9x_1 - 1.2x_2 + 1.8x_3 - 2.7x_4 - 1.3x_5 + 2.8x_6 - 0.1x_7 = 0.4 \\
1.7x_1 + 16.3x_2 - 2.5x_3 - 2.1x_4 - 2.6x_5 + 1.7x_6 + 2.4x_7 = 4.8 \\
-1.9x_1 - 0.3x_2 + 13.5x_3 - 2.4x_4 + 0.9x_5 - 0.9x_6 - 2.3x_7 = 3.8 \\
1.6x_1 - 1.2x_2 - 1.3x_3 + 13.8x_4 - 1.2x_5 + 0.7x_6 - 1.8x_7 = -1.8 \\
-1.6x_1 - 2.6x_2 - 0.2x_3 + 0.2x_4 + 12.5x_5 + 0.3x_6 + 2.8x_7 = 4.2 \\
1.7x_1 - 0.6x_2 + 1.3x_3 + 1.9x_4 + 1.0x_5 + 11.2x_6 + 2.9x_7 = 2.3 \\
1.9x_1 - 0.2x_2 + 0.7x_3 + 2.2x_4 - 1.3x_5 + 1.4x_6 + 13.4x_7 = 4.4
\end{cases}$$

a) $[0.04017744, 0.34047505, 0.33422316, -0.00222759, 0.34116316, 0.0633154, 0.33906632]$

b) $[0.03994876, 0.34024637, 0.33399448, -0.00245627, 0.34093448, 0.06308672, 0.33883764]$

c) $[0.04036106, 0.34065867, 0.33440678, -0.00204397, 0.34134678, 0.06349902, 0.33924994]$

 $[0.03875227, 0.33904988, 0.33279799, -0.00365276, 0.33973799, 0.06189023, 0.33764115]$

e) $[0.0399879, 0.34028551, 0.33403362, -0.00241713, 0.34097362, 0.06312586, 0.33887678]$

f) $[0.04031898, 0.34061659, 0.3343647, -0.00208605, 0.3413047, 0.06345694, 0.33920786]$

C:\Windows\system32\cmd.exe   C:\Windows\system32\cmd.exe   C:\Windows\system32\cmd.exe

```
Iteracao: 2              Iteracao: 4              Iteracao: 6
x1: -0.08139534          x1: -0.01906451          x1: 0.03753310
x2: 0.83374232           x2: 0.38501924           x2: 0.33195263
x3: -1.19703698          x3: 0.34308791           x3: 0.33764055
x4: 0.49637681           x4: -0.04569846          x4: -0.00353240
x5: 0.58880001           x5: 0.29122967           x5: 0.33674604
x6: 1.26339281           x6: 0.00614362           x6: 0.05893150
x7: 1.81641793           x7: 0.27756396           x7: 0.33643085


Iteracao: 3              Iteracao: 5              Iteracao: 7
x1: 0.17867881           x1: 0.03955285           x1: 0.03778740
x2: -0.12197054          x2: 0.34814492           x2: 0.33992633
x3: 0.73123485           x3: 0.30751309           x3: 0.33230954
x4: 0.06277627           x4: -0.00120791          x4: -0.00393901
x5: 0.03470613           x5: 0.35754254           x5: 0.33853430
x6: -0.20578235          x6: 0.09893472           x6: 0.06167398
x7: 0.25850648           x7: 0.35399991           x7: 0.33744523
```

C:\Windows\system32\cmd.exe

```
Iteracao: 8
x1: 0.03878070
x2: 0.33887964
x3: 0.33268666
x4: -0.00362863
x5: 0.33985353
x6: 0.06232799
x7: 0.33776039


Iteracao: 9
x1: 0.03868911
x2: 0.33896971
x3: 0.33286774
x4: -0.00367663
x5: 0.33967775
x6: 0.06182533
x7: 0.33759293
```

C:\Windows\system32\cmd.exe

```
Iteracao: 10
x1: 0.03875227
x2: 0.33904988
x3: 0.33279800
x4: -0.00365275
x5: 0.33973798
x6: 0.06189023
x7: 0.33764115
```