

W naszym przypadku:

$$x \in [0, 1] \text{ więc } \tilde{x} = 2x - 1 \in [-1, 1]$$

Tak więc

$$\varphi_i(\tilde{x}) = T_{i-1}(2x - 1)$$

Czyli

$$\varphi_1(\tilde{x}) = 1,$$

$$\varphi_2(\tilde{x}) = \tilde{x} = 2x - 1,$$

$$\varphi_3(\tilde{x}) = 2\tilde{x}^2 - 1 = 8x^2 - 8x + 1,$$

$$\varphi_4(\tilde{x}) = 4\tilde{x}^3 - 3\tilde{x}$$

$$= 32x^3 - 48x^2 + 18x - 1,$$

Rozwiązanie:

$$L = \begin{bmatrix} 21 & 0 & -5.6 & 0 \\ 0 & 7.7 & 0 & -2.8336 \\ -5.6 & 0 & 10.4664 & 0 \\ 0 & -2.8336 & 0 & 11.01056 \end{bmatrix}$$

$$b = [24.118, 2.351, -6.01108, 1.523576]^T$$

$$a = [1.160969, 0.393514, 0.046850, 0.239646]^T$$