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Sufficient conditions are given on λ, μ, f and g for which there exist positive solutions of the system of nonlinear second order difference equations, $\Delta^2 u_{n-1} + \lambda c_n f(u_n, v_n) = 0$, $\Delta^2 v_{n-1} + \mu d_n g(u_n, v_n) = 0$, $n \in \{1, \dots, N-1\}$, satisfying the multipoint boundary conditions, $\alpha u_0 - \beta \Delta u_0 = 0$, $u_N = \sum_{i=1}^{m-2} a_i u_{\xi_i}$, $m \geq 3$, and $\gamma v_0 - \delta \Delta v_0 = 0$, $v_N = \sum_{i=1}^{p-2} b_i v_{\eta_i}$, $p \geq 3$. The Guo-Krasnosel'skii fixed point theorem for positive operators on a cone is applied. (Received June 14, 2011)