In this talk, we focus on the existence of multiple positive solutions for the $2n$th order ordinary differential equation, $u^{(2n)} = \lambda h (t, u, u'', \ldots, u^{(2n-2)})$, $t \in (0, 1)$, satisfying the boundary conditions, $u^{(2k)}(0) = 0$ and $u^{(2k)}(1) = (-1)^k a_k$ for $k = 0, \ldots, n - 1$, where $h : [0, 1] \times \prod_{i=0}^{n-1} (-1)^n[0, \infty) \to (-1)^n[0, \infty)$ is continuous, $\lambda, a_k \geq 0$ for $k = 0, \ldots, n - 1$, and $\sum_{k=0}^{n-1} a_k > 0$. We transform the boundary value problem into a system of second order boundary value problems and then apply the Guo-Krasnosel’skii Fixed Point Theorem multiple times, establishing the existence of several positive solutions. (Received June 26, 2008)