Let $l$ and $u$ be two functions on the interval $[a, b]$. Let $G$ be a linear subspace of continuous functions on $[a, b]$, and let $K$ be the functions in $G$ such that $l \leq g \leq u$. This work characterizes best approximations from $K$. This work differs from other studies having similar intent by allowing more general restricting functions $l$ and $u$. In particular $l$ and $u$ are allowed to be equal to a finite set $S$. The characterization is an alternation characterization of the error function. It involves the Dini derivatives of $l$ and $u$ on $S$. The characterization is used to prove the uniqueness of the best approximation. The theorem uses an extensive collection of technical definitions and conditions. No new examples are presented.

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MSC:

41A50  Best approximation, Chebyshev systems
41A29  Approximation with constraints

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