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Review text:

Differential and difference equations carry many common features. A strong tendency may be observed of transferring pieces of the long experience with the former to the recently increasingly popular domain of the latter. A part of the motivation lies in the growth of the role played by the computers. That's why the author moved temporarily from her traditional readership (J. Math. Anal. Appl.) to a more computer-oriented public. Her compact and comparatively closed review as well as new rigorous results (see the title) in a problem with huge applicability. The text offers a satisfactory reading about the discrete version of the inhomogeneous linear Sturm Liouville problem and about its solution via Green's functions. After a thorough review of her own recent very interesting results - with coauthors - on Green's (difference) function, she concentrates on the problems of stability and absolute stability and proves two theorems giving necessary and sufficient conditions in cases where the "potential" remains non-negative. In all the theorems and proofs the key role is played by the auxiliary sequences of Bulabaev and Shuster. A sample of applications of the theory illustrates, e.g., the relevance of the criteria for the inversion problem (cf. Theorem 3.4), for the tracing of parallels with differential equations (cf. Theorem 3.4) and a few characteristic and specific differences (cf. examples in the last section).