Erratum

Mann Iteration Converges Faster than Ishikawa Iteration for the Class of Zamfirescu Operators

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The aim of this erratum is to make necessary corrections in the proof of Theorem 2.1 of Babu and Prasad (2006).

The paper by Babu and Prasad [1] contains some mistakes in the proof of Theorem 2.1. In this erratum, we make the necessary corrections.

We follow the same notation as in [1].

In the statement of Theorem 2.1, we assume that $x_0 = y_0 \in K$.

Beginning with (2.1) and applying the technique as in the proof of Theorem 2.1 in [1], we can show that

$$||x_{n+1} - p|| \le a_n ||x_0 - p||, \tag{1}$$

where $a_n = \prod_{k=0}^{n} [1 - \alpha_k(1 - \delta)]$, $n = 0, 1, 2, \ldots$; and also we can show that

$$||y_{n+1} - p|| \le b_n ||y_0 - p||, \tag{2}$$

where $b_n = \prod_{k=0}^{n} [1 - \alpha_k(1 - \delta)^2]$, $n = 0, 1, 2, \ldots$.

We observe that

$$\frac{1 - \alpha_k(1 - \delta)}{1 - \alpha_k(1 - \delta)^2} \le 1 - \alpha_k \delta(1 - \delta), \quad k = 0, 1, 2, \ldots, \tag{3}$$

so that

$$\frac{a_n}{b_n} \le \prod_{k=0}^{n} \left[1 - \alpha_k \delta(1-\delta) \right], \quad n = 0,1,2,\ldots. \tag{4}$$

Thus, $\lim_{n\to\infty} (a_n/b_n) = 0$.

Note that $a_n \to 0$ and $b_n \to 0$ as $n \to \infty$.

Acknowledgments

References

[1] G. V. R. Babu and K. N. V. V. Vara Prasad, "Mann iteration converges faster than Ishikawa iteration for the class of Zamfirescu operators," *Fixed Point Theory and Applications*, vol. 2006, Article ID 49615, 6 pages, 2006.

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