A NOTE ON THE "A CONTRACTION THEOREM IN MENGER PROBABILISTIC METRIC SPACES"

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Abstract. We point out an error in the paper Shakeri [J. Nonlinear Sci. Appl. 1 (2008), no. 3, 189–193].

We point out an error in the paper [2]: the proof of the fact that the sequence $\{f(x_n)\}$ is Cauchy is not correct.

Thus, Theorem 2.2 in [2] is not true unless T is of Hadžić-type (see Example 2.1 in [1]). Under this additional condition, the result of Shakeri can be obtained as a corollary of the following theorem:

Theorem 0.1. ([1], Theorem 2.1) *Let (X, M, T) be a left complete Menger PQM-space with T of Hadžić-type, such that every convergent sequence in X has a unique limit.*

Let f, g be two selfmappings of X satisfying the following conditions:

(i) $g(X) \subset f(X)$.

(ii) f is continuous.

(iii) There is $k \in (0, 1)$ such that $F_{g(x)g(y)}(kt) \geq F_{f(x)f(y)}(t)$ for all $x, y \in X$ and $t > 0$.

Then f and g have a unique common fixed point provided f and g commute.

References

[1] D. Miheţ, A note on a fixed point theorem in Menger probabilistic quasi-metric spaces, Chaos, Solitons & Fractals (2007), doi:10.1016/j.chaos.2007.10.029.

[2] S. Shakeri, A contraction theorem in Menger probabilistic metric spaces, J. Nonlinear Sci. Appl. 1 (2008), no. 3, 189–193.

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