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CORRECTION OF "FRACTIONAL EQUATIONS AND A THEOREM OF BROUWER-SCHAUDER TYPE"

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Abstract. In a recent paper we offered a theorem which was intended to be a direct parallel of Brouwer's fixed point theorem applied to certain mappings of sets in a Banach space of bounded continuous functions mapping $[0, \infty) \to \Re$. The mappings were generated by integral equations having roots in fractional differential equations of Caputo type. Brouwer's theorem in the simplest form shows that the continuous mapping of the closed $n - ball$ in E^n has a fixed point. We started with a set in the Banach space which was not a ball and we had an error in the proof. In this correction our mapping set is in the Banach space of bounded continuous functions with the supremum norm, $(BC, \| \cdot |)$, and is defined by $M = \{\phi \in BC | a \leq \phi(t) \leq b\}$ for constants $a < b$. We show that if the continuous mapping of M into M is generated by our integral equations, then it has a fixed point in M.
Key Words and Phrases: Fixed points, fractional differential equations, Schauder's theorem, Brouwer's theorem.
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