A COUNTEREXAMPLE CONCERNING ALMOST CONTINUOUS FUNCTIONS

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Abstract. An example is constructed of a function which is almost continuous in the sense of Singal and Singal but not in the sense of Stallings.

Let \( X \) be the set of real numbers with the topology \( \tau \) consisting of the usual open sets together with the sets of the form \( U \cap D \), where \( U \) is an open set in the usual topology and \( D \) the set of all irrational numbers. Let \( f: [0, 1] \to (X, \tau) \) be defined by \( f(x) = x \). Then \( f \) is almost continuous in the sense of Singal and Singal (and also in the sense of Husain\(^3\)). Since the only continuous functions on \([0, 1] \to (X, \tau)\) are the constant functions (Steen and Seebck [3, p. 89]), \( f \) is not almost continuous in the sense of Stallings. This answers an open problem recently posed by Long and Carnahan [2].

References


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\(^3\) An almost continuous function in the sense of Husain was earlier defined by Blumberg [1].

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