Abstract: The notion of left quotient ring, introduced by Utumi in [9], is a widely present notion in the mathematical literature [1,3,4,8]. In [10] Van Oystaeyen studied graded rings and modules of quotients from a categorical point of view and considering unital rings. In this work the authors develop a theory in the non-unital case and construct the graded maximal left quotient algebra $Q^l_{gr-max}(A)$ of every right faithful graded algebra A as the direct limit of graded homomorphisms of left A-modules from graded dense left ideals of A into an arbitrary graded left quotient algebra B of A. In the case of a superalgebra, and with some extra hypothesis, we prove that there exists an algebra isomorphism between $Q^l_{gr-max}(A)_0$ and $Q^l_{max}(A_0)$. These results can be applied to the context of associative pairs and triple systems.

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