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Evolution algebras are non-associative, but commutative algebras. They seem have many relations or connections with other mathematical subjects. We here established relationships between braid groups and evolution algebras. For each element of braid group B_n , we assign an evolution algebra. The image of B_n under this map is a sub-category of n -dimensional evolution algebra category. It may be called evolution algebra representation of braid groups. (Received September 06, 2009)