Finite Groups are Determined by a Combinatorial Property

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One of the important problems in the theory of finite groups is to decide wether two groups are isomorphic. In this paper, we first construct a transitive permutation group Γ_G whose orbitals coincide with the basis relations of the scheme of conjugacy classes of G. Then it is proved that the group G is determined uniquely (up to isomorphism) by the scheme of the conjugacy classes of G under the assumption that the permutation group Γ_G is 2-closed.