

The structure of the ideals of O_n

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Let O_n denote the semigroup of all order-preserving transformations on an n -element ordered set excluding the identity mapping. In 2000, X. Yang and C. Lu gave a classification of the maximal idempotent generated subsemigroups of O_n . We know that the ideals of O_n are idempotent generated. We want to determine the maximal idempotent generated subsemigroups of the ideals of O_n . For $n \leq 4$, we provide a complete characterization. For $n > 4$, we present two particular types of maximal idempotent generated subsemigroups of the ideals of O_n .