

## **On Cyclic Compositions and Their Parts**

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Integer compositions are ordered sequences of positive integers that sum up to a given integer. We use generating functions to study cyclic versions of compositions, colored compositions under various constraints. First, a general construction of the generating functions for cyclic compositions (or their parts) is established. With this generating function we look to find and justify patterns from the number of cyclic compositions or number of parts in the cyclic compositions.

Keywords: integer compositions, cyclic compositions, generating functions