

## Werk

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then  $\alpha$  is never an automorphism of  $(\mathcal{X}, \mathcal{B})$ .

**Theorem 2.** *If there exists a cyclic  $(v, k, \lambda)$ -configuration  $(\mathcal{X}, \mathcal{B})$ , then if we define an isomorphism of  $(\mathcal{X}, \mathcal{B})$  by  $\alpha : x \mapsto v - x$  for each  $x \in \mathcal{X}$ , we get a cyclic  $(v, k, \lambda)$ -configuration  $(\mathcal{X}, \overline{\mathcal{B}})$ , where  $\alpha(\mathcal{B}) = \overline{\mathcal{B}}$  and both the configurations  $(\mathcal{X}, \mathcal{B})$ ,  $(\mathcal{X}, \overline{\mathcal{B}})$  are distinct.*

**Corollary.** *Let  $v, k, \lambda$  be positive integers. If there exists a cyclic  $(v, k, \lambda)$ -configuration  $(\mathcal{X}, \mathcal{B})$  then the number of distinct cyclic  $(v, k, \lambda)$ -configurations is even.*

Consider now a cyclic  $(v, k, \lambda)$ -configuration  $(\mathcal{X}, \mathcal{B})$ . Since  $v - (v - x) = x$ , there exists an automorphism of  $(\mathcal{X}, \mathcal{B})$

$$\alpha^2 : x \mapsto v - x \mapsto v - (v - x) \text{ for each } x \in \mathcal{X}.$$

All this entitles us to express the results of this paper in the following way:

Two cyclic  $(v, k, \lambda)$ -configurations  $(\mathcal{X}, \mathcal{B})$  and  $(\mathcal{X}, \overline{\mathcal{B}})$  may be called conjugate.

#### References

- [1] *Herbert John Ryser*: Combinatorial Mathematics. The Mathematical Association of America, 1963.
- [2] *Marshall Hall, Jr.*: Combinatorial Theory. Blaisdell, Waltham (Massachusetts), 1967.

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