

INVESTIGATING NEW DEPENDENCIES IN THE STRUCTURE OF NEAR-RINGS OVER FINITE CYCLIC GROUPS

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Abstract. *The current state of available software tools for near-rings over finite cyclic groups is such that the final steps of the research into new theorems that describe groups of these near-rings must be done manually. We propose an approach and have developed an algorithm for automatically matching groups of near-rings over finite cyclic groups to already existing theorems. Additional parts of the developed software module filter out the already described near-rings and group the remaining ones into batches of items with similar or same dependencies between the elements inside them. The final step is outputting these groups into a human-readable format, which aids mathematicians' investigation into new theorems and hypotheses.*

Key words: near-rings, finite cyclic groups, python, pandas, data tables.

Mathematics Subject Classification: 16Y30, 68V05

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