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«A method for data analysis in algebraic structures»

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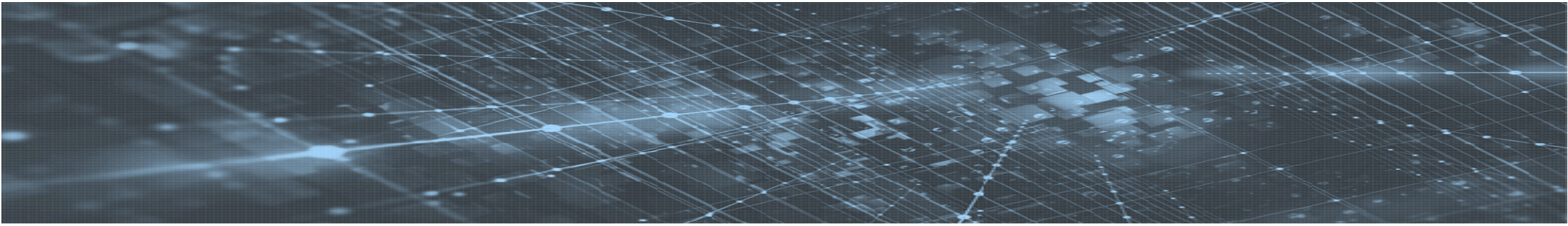
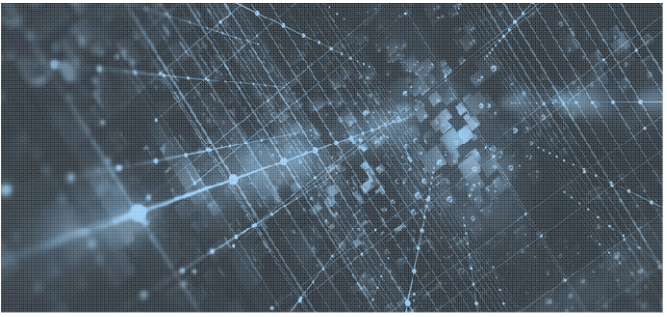
Problem statement

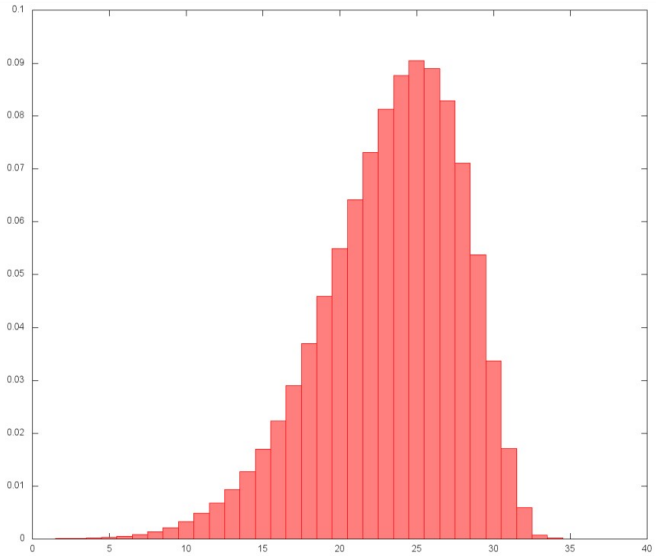
- Main goal: to establish recognizability by the density function for groups A8 and PSL (3,4).
- Choose optimal computer algebra system to establish generating pairs of a group
- Develop and implemented effective algorithm for storing permutation group



Solution methods

- AVL-tree to represented permutation groups
- GAP (Computer algebra system) to establish generating pairs of a group
- GNUplot to represented growth and density functions of a group





Conclusions

Results, implementation

- Developed and implemented algorithm for storing permutation group elements using AVL trees
- The search time also turns out to be logarithmic (depending on the number of objects)
- For groups A8 and PSL (3,4), their recognizability by the density function was established

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