SymbolicData – SDEval

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Section 1

Introduction

Problems

- No standard benchmarks for computer algebra systems with respect to certain computation problems (e.g. Gröbner bases).
- A huge variety of computation problems available in computer algebra.
- Reproducibility of results.
  - Extra parameters for functions?
  - How are the timings obtained?
- Proving of correctness of computation results.
- $n + 1$ computer algebra systems available. How to translate a given problem into executable code for them without learning to use each one?
- Monitor computations (exit after certain resource-consumption?).

SymbolicData:SDEval

- SymbolicData (`http://www.symbolicdata.org`) is a database containing a large number of examples for certain computation problems.
- SDEval is a toolbox built on top of SymbolicData providing the following main functionality:
  - Translate entries in the database into executable code.
  - Run, monitor and evaluate the computations.

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Section 2

Demonstration

Section 3

Additional Notes

- SDEval is extensible and flexible to a high extent.
- Everyone can easily contribute problems or templates for computer algebra systems.
- One can use the execution and monitoring tools independent from SymbolicData - Your own examples, your own programs

`http://symbolicdata.org`
`http://symbolicdata.org/wiki/SDEval`
`http://arxiv.org/abs/1310.5551`

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- Everyone can easily contribute problems or templates for computer algebra systems.
- One can use the execution and monitoring tools independent from SymbolicData - Your own examples, your own programs (Reproducibility and Monitoring)

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