

An Efficient Algorithm for Detecting Patterns in Traces of Procedure Calls

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Contribution

- ★ To present an efficient algorithm that extracts trace patterns
- ★ To present a list of pattern matching criteria to group similar but not necessarily identical patterns together

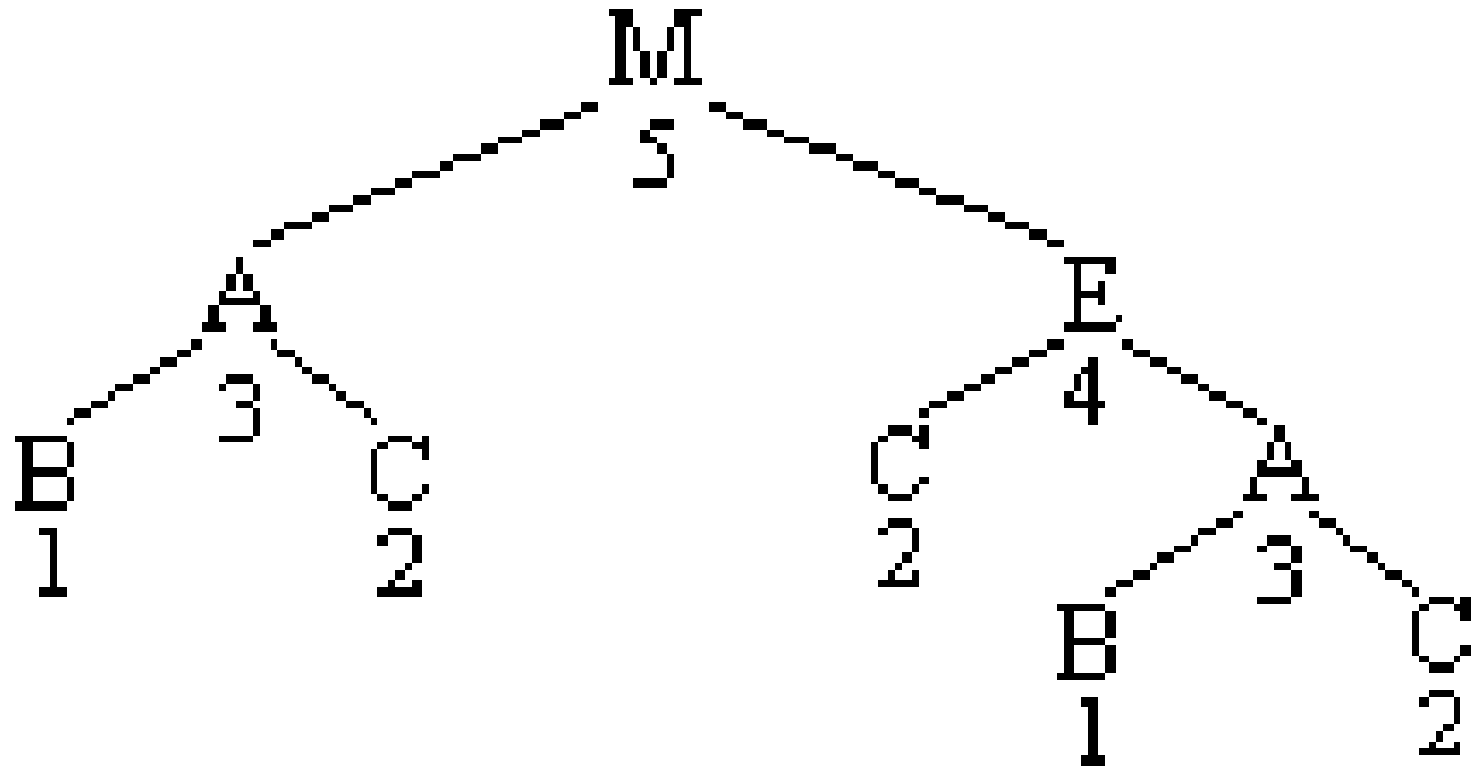


Trace Pattern

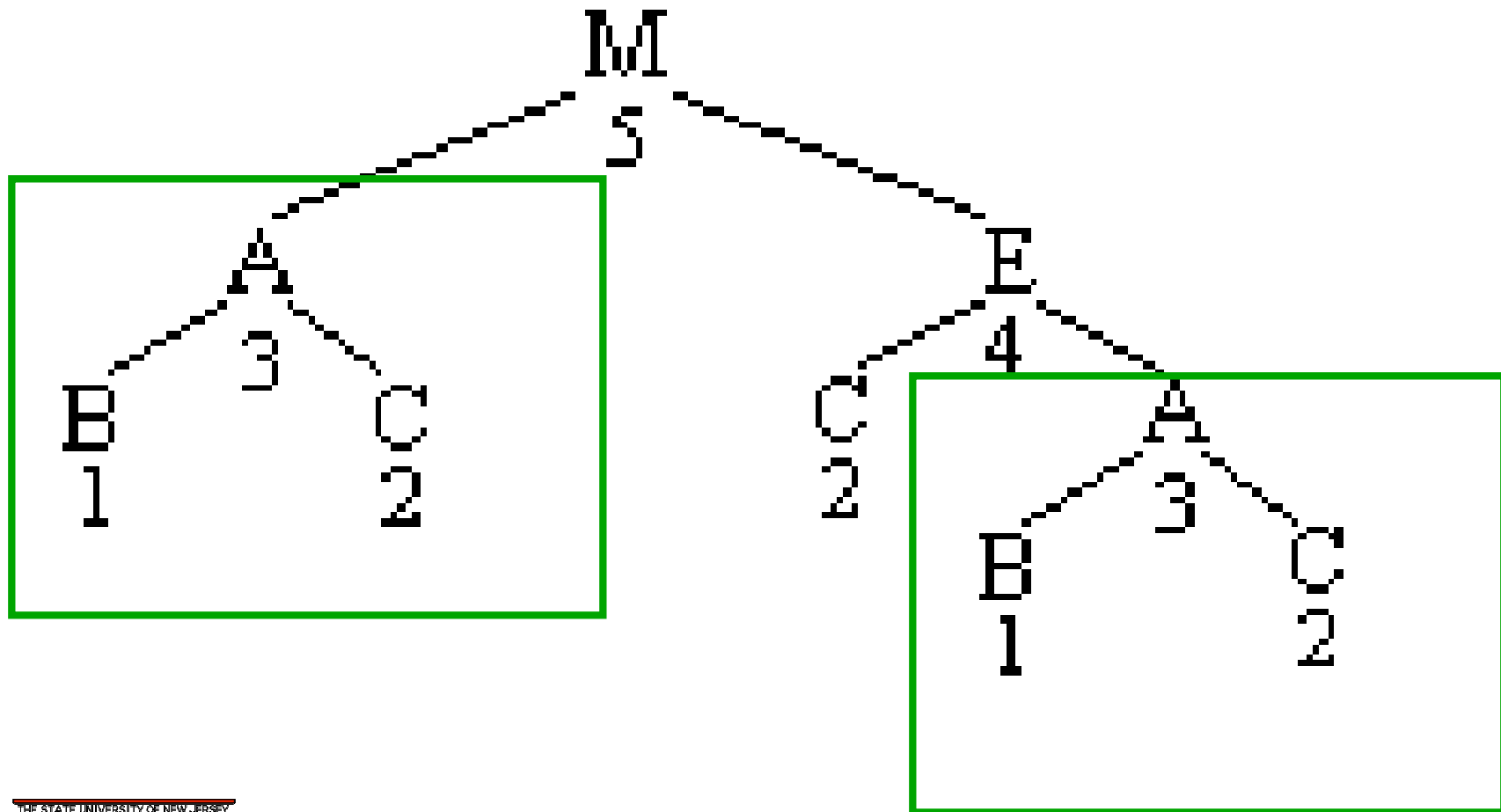
- ★ (Ideally) a trace pattern captures a high-level domain concept
- ★ Trace Pattern is helpful for program understanding
- ★ (Old)Def: a trace pattern is a sequence of calls that occurs repetitively but non-contiguously in several places in the trace
-----by Zayour & Lethbridge



Example

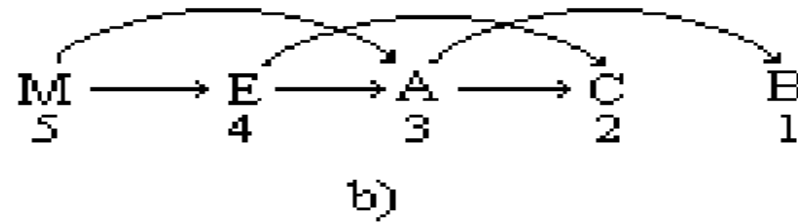
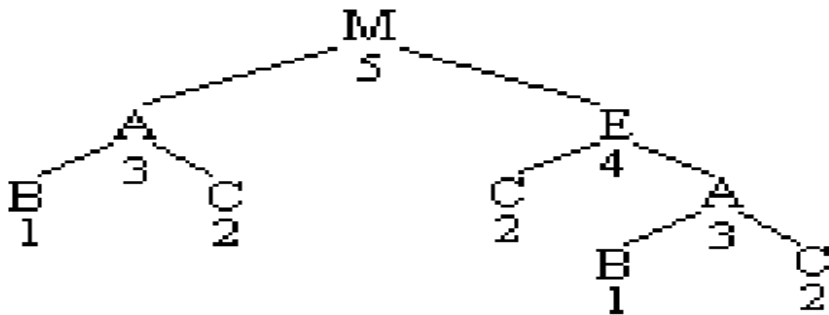


Example



Algorithm

* Common Subexpression Problem



Pattern Matching Criteria

- ★ Identity
- ★ Repetition
- ★ Ordering
- ★ Depth-Limiting
- ★ Utility(to ignore)
- ★ Distance(same calls but different structure)
- ★ Flattening

