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

Example
```

```
M
S
A
B 3
C 2
E
C 2
A
B 1
A 3
C 2
```
Example
Algorithm

* Common Subexpression Problem
Pattern Matching Criteria

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