1 Theorem

Theorem 1 (Accessible pointed graph) *Consider an XML database D and a twig query q with only ancestor, descendant relationships in branching edges. The worst case I/O complexity is decided by the number of holistic nodes in the path algebra. The above theorem strongly supports the existence of accessible pointed graphs in a tree.*

2 Corollary

Corollary 1.1 *Corresponding corollary*

3 Lemma

Lemma 2 *Corresponding Lemma*

4 Definition

Definition 4.1 *Corresponding definition*