

Tutorial 8: Hypergraphs

- (1) Determine which of the following hypergraphs are acyclic. If they are, construct the GHDs.
- (a) $\left\{ \{1, 2, 3\}, \{3, 4, 5\}, \{1, 3, 5\} \right\}$.
 - (b) $\left\{ \{1, 2, 3\}, \{3, 4, 5\}, \{1, 6, 5\} \right\}$.
 - (c) $\left\{ \{1, 2, 3\}, \{3, 4, 5\}, \{1, 6, 5\}, \{1, 3, 5\} \right\}$.
 - (d) $\left\{ \{9, 8, 5\}, \{5, 6\}, \{8, 5, 4, 3\}, \{8, 5, 6\} \right\}$.
 - (e) $\left\{ \{2, 5, 8\}, \{3, 5, 2, 9\}, \{3, 1, 2, 5, 4\}, \{8, 5, 4\}, \{8, 5, 3\} \right\}$.
- (2) In invoking GYO algorithm, is it possible that different sequences of deletions may produce different results? What do you think?
- (3) Looking at the hypergraphs in question (1), do you notice something different about hypergraph acyclicity than the standard graph acyclicity?