



# Ordered Undirected Graphs

## 1 Why

TODO Need for perfect elimination orderings.

## 2 definition

An *ordering* of an undirected graph is a numbering of its vertices. An *ordered undirected graph* is a triple: the first two objects as an ordered pair are an undirected graph and the third object is a numbering of this graphs vertices.

## 3 Notation

Let  $G = (V, E)$  be an undirected graph with  $n = |V|$ . Let  $\sigma : \{1, 2, \dots, n\} \rightarrow V$  be a numbering of  $V$ . We denote the ordered graph consisting of  $G$  and  $\sigma$  as  $G_\sigma = (V, E, \sigma)$ .

## 4 Array Visualization

We visualize ordered graphs as triangular arrays by





