**DAG I-map of Undir Graph** $G=(V,E)$

**Alg**
1. triangulate $E \rightarrow E' = EUF$
2. Tarjan elim: elim $A \Rightarrow w(A)$ in current graph $= po(A)$

**Proof** If $G$ is not chordal \( \Rightarrow \) cycle without chord $\Rightarrow$
\[ \Rightarrow \text{this will have a } V \text{-structure} \]

**Undir Graph I-map of DAG**

**Alg:** Moralize

**Proof:** To prove that: for any $x, y \in V$ so that

- if open path $x\rightarrow y \mid Z \subseteq V$ there is an open path
  in $G^m$ between $x\rightarrow y$

Take some open path $x\rightarrow y \mid Z \subseteq V$

Path has 3 kinds of nodes:

- If path open at $A \Rightarrow A \notin Z$ \( \Rightarrow \) path open at $A$ in $G^m$
- $B \Rightarrow B \notin Z \Rightarrow \ldots$ at $B$ in $G^m$

$C$ may be in $Z$ or not, but $c', c'' \notin Z$ \( \Rightarrow \)

path that detours $C$ via $c'--c''$ is open in $G^m$