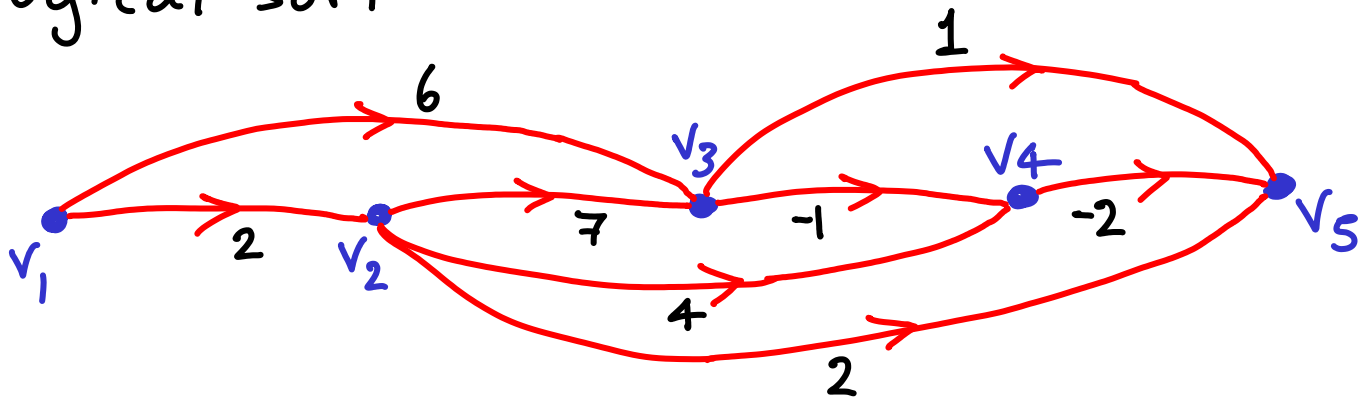
SINGLE-SOURCE SHORTEST PATHS FOR A DAG

SINGLE-SOURCE SHORTEST PATHS FOR A DAG

1) Topological sort



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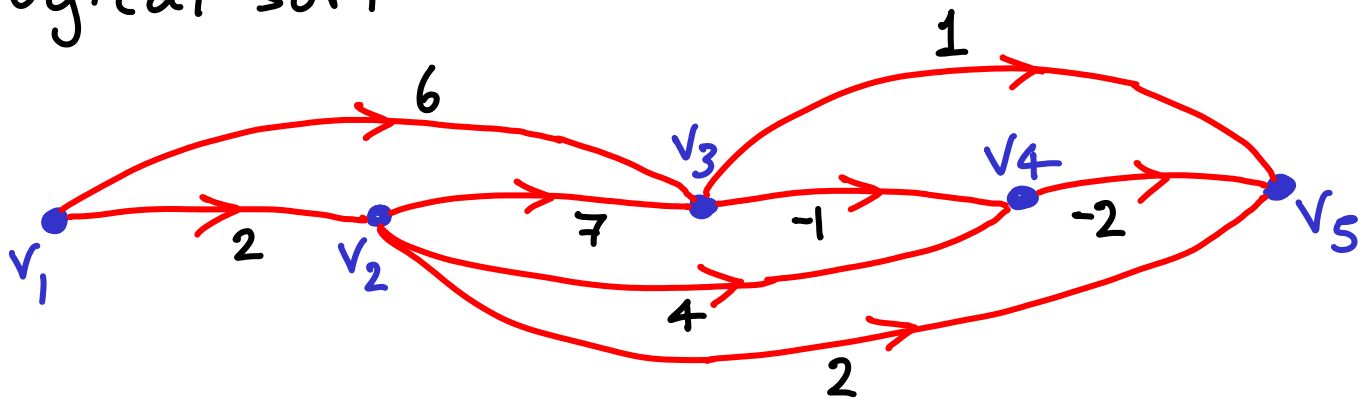

2) For each v_i in t-sorted order

RELAX all outgoing edges

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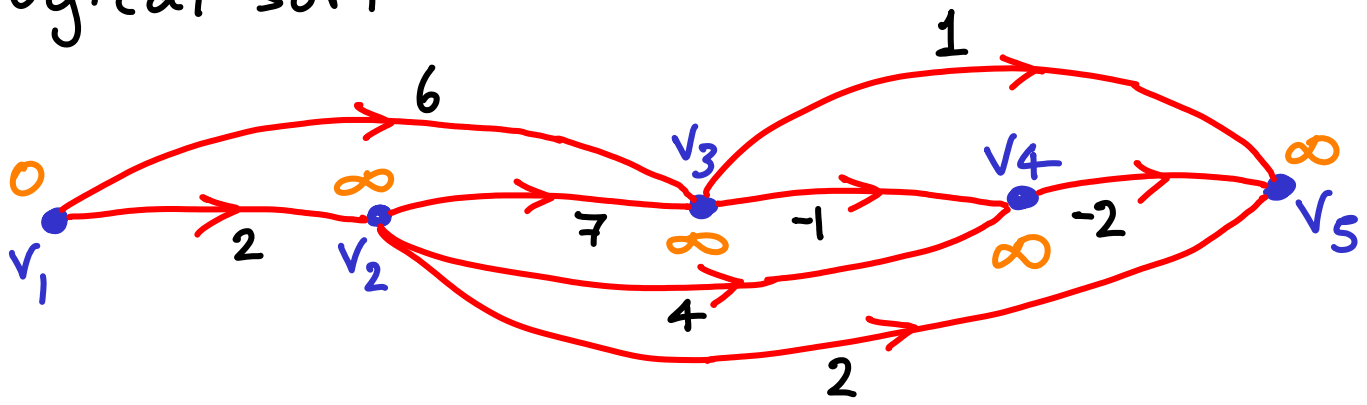

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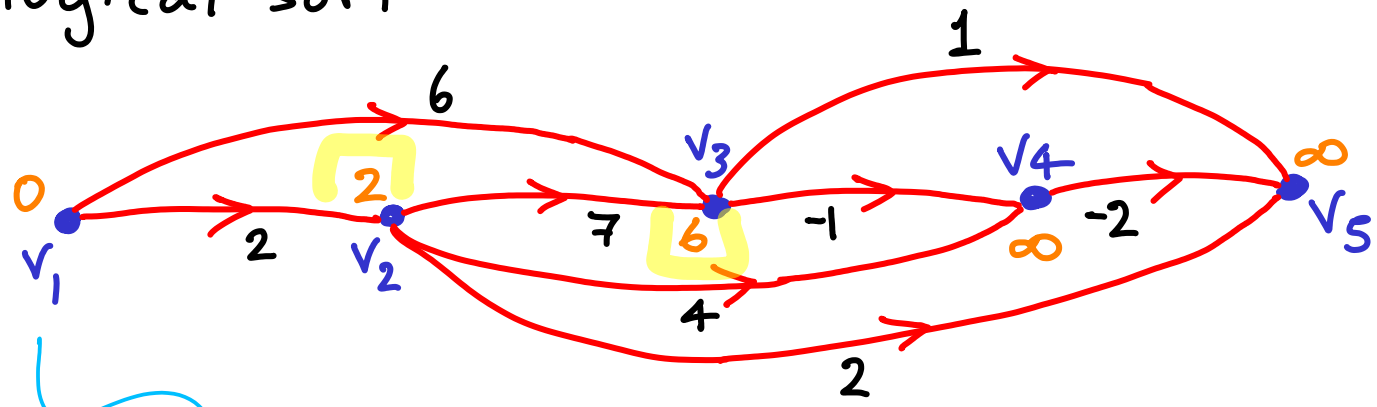

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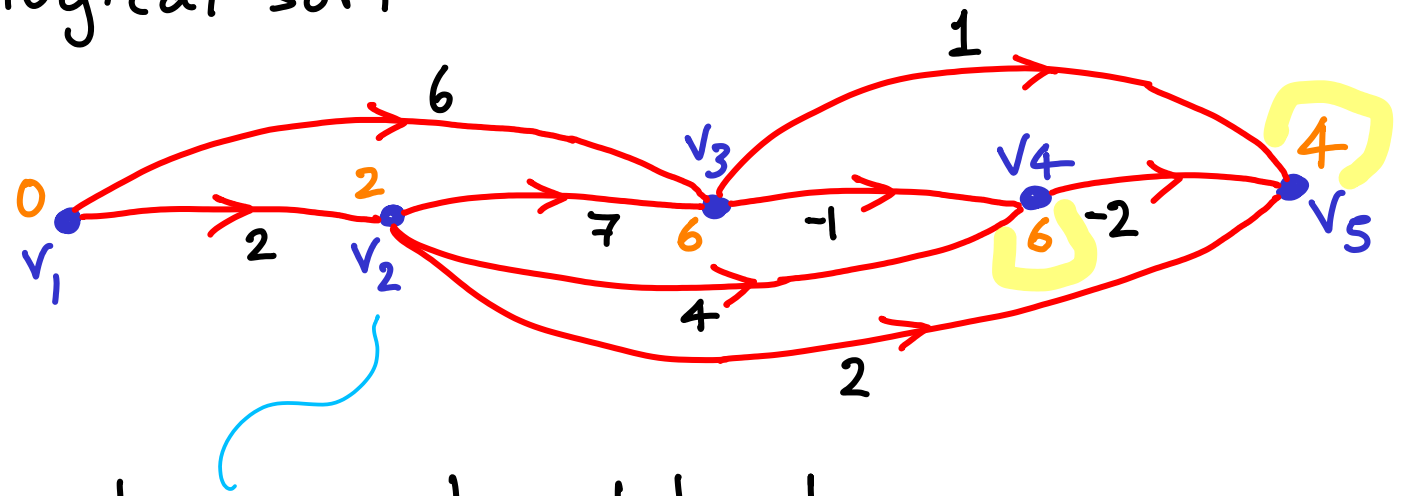

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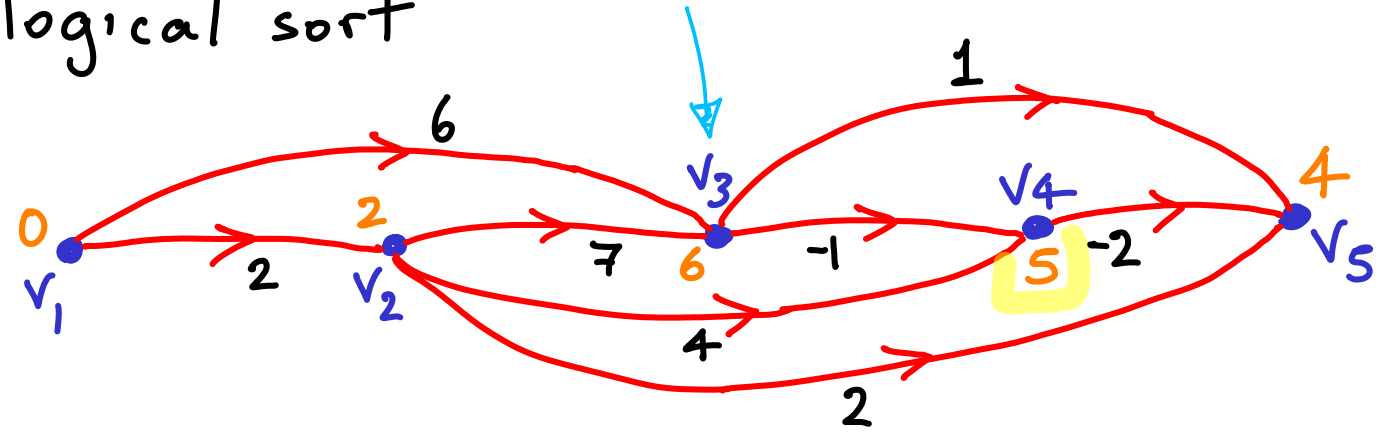

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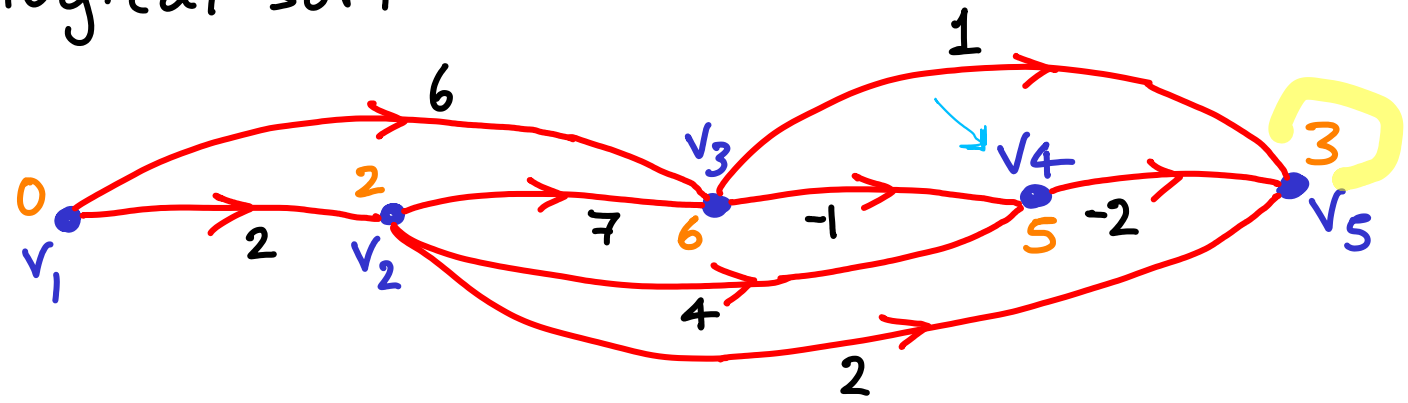

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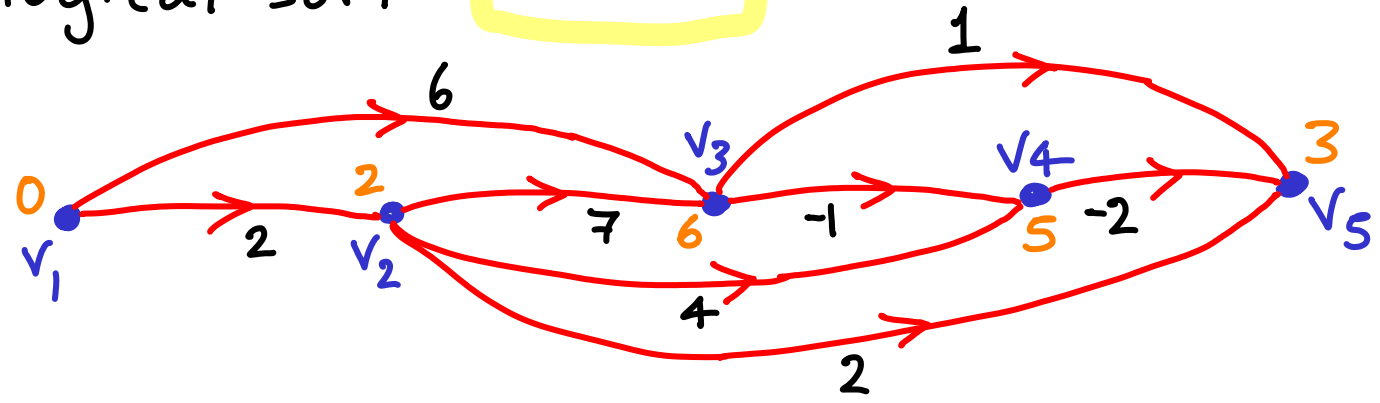
1) Topological sort

time?



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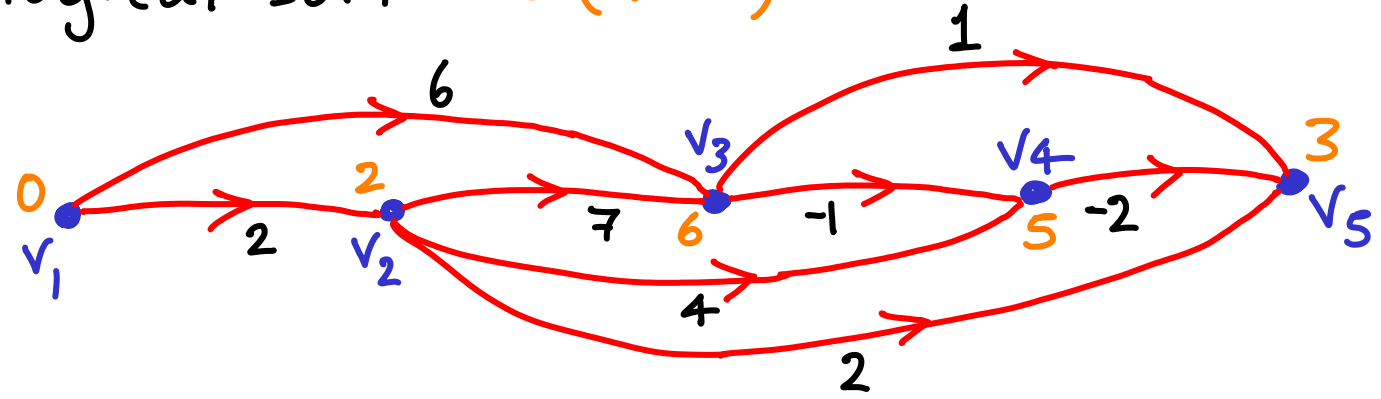
time?

SINGLE-SOURCE SHORTEST PATHS FOR A DAG

1) Topological sort $O(V+E) \xrightarrow{*} O(E)$



2) For each v_i in t-sorted order
RELAX all outgoing edges

$O(V+E) \xrightarrow{*} O(E)$

* for subgraph reachable by s
(start DFS at s)