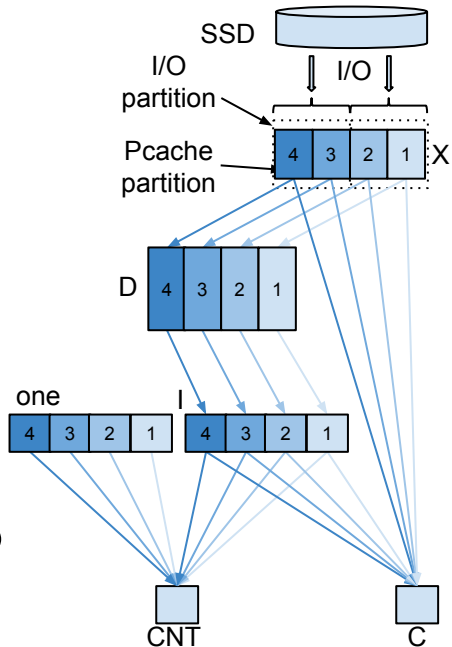


(a) DAG



(b) Data flow in DAG materialization