

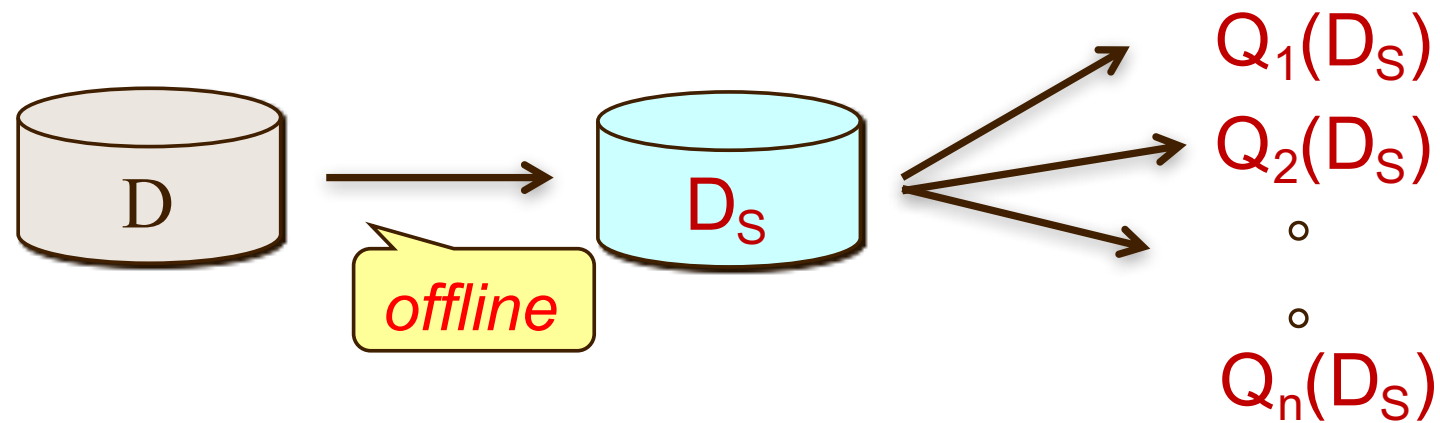
# Bounded Approximation

— for unbounded queries

# Approximate Query Processing

## ► Synopsis-based approximation

- for any database  $D$  compute an *one-size-fit-all* synopsis  $D_s$
- for all queries  $Q$  posted on  $D$ , compute  $Q(D_s)$  as the answer



- aggregate query only
- assumption: query load or predicates are known in advance
- *probabilistic accuracy bound: can't trust any answer in  $Q(D_s)$*

## ► Online sampling

- no (or very bad probabilistic) accuracy bound (aggregate queries)