

1) Parser and translator checks the query.

2) The optimizer checks which path to take.

(whether to use index)
1. Index only Scan. → Evaluation plan
2. Covering Index.

Measures of Query Cost:-

→ Cost is generally measured as total elapsed time for answering query.

→ Many factors contribute to time cost.

* disk Accesses, CPU, (or) even N/w communication.

→ "Seek Time" is the most dominant cost.

↳ So we can break down the no. of seeks for 1 seek.

↳ And also blocks read & written.

$(C * t_T) + (S * t_S)$ → Time taken for one seek.
↓ ↓
no. of blocks Time taken for one block (to transfer)

10/17/22.

Cost Example:-

Ex1: A6 (Secondary index, comparison)

For $\sigma_A \geq V(R)$

↳ Use index to find first entry $\geq V$ and

scan index sequentially from there, to find

pointers to records.

$$h_i(t_s + t_T) + n(t_s + t_T).$$

$$(h_i + n) * (t_s + t_T).$$

Sorting: All the sorting techniques are only used when the data is in the main memory.

→ So one type of sorting algorithm that can be used in the case the data doesn't fit in the main memory is External Sorting using Sort-Merge.

Join operation:

→ No. of records of students: 5,000 total: 10,000.

→ No. of blocks of student: 100 total: 400.

→ They have different ratios of no. of records & blocks size is because it depends on the no. of rows on how the records are stored in a row.