What was the bottleneck?

- Filtered only 11.11% of data

● How did you identify it?

Using EXPLAIN, full table scan is detected; type ALL.

Graphical user interface, text, application, email

Description automatically generated

EXPLAIN ANALYZE shows

-> Filter: (student.id between <cache>((@v2)) and <cache>((@v3))) (cost=5.44 rows=44) (actual time=0.627..1.436 rows=278 loops=1)

-> Table scan on Student (cost=5.44 rows=400) (actual time=0.624..1.392 rows=400 loops=1)

● What method you chose to resolve the bottleneck

First, I created an index on the id field. This boosted filtered data from 11.11% to 69.5%. However, a full table scan still occurs.

-> Filter: (student.id between <cache>((@v2)) and <cache>((@v3))) (cost=41.00 rows=278) (actual time=0.049..0.279 rows=278 loops=1)

-> Table scan on Student (cost=41.00 rows=400) (actual time=0.048..0.241 rows=400 loops=1)

Text, letter

Description automatically generated

Second, I added a second index for the name column. This has a 100% filter rate and changed from a full table scan to an index range scan.

Text

Description automatically generated