# NAME -JATAN SAHU ID-202218061

# <u> IT667 - Database Management Systems</u>

Lab Assignment 8 - Indexing

SET SEARCH\_PATH TO 'TPCH\_DB';

QUERY:1

**BEFORE INDEXING**:-

SELECT \* FROM supplier ;

**EXPLAIN ANALYZE** 

SELECT \* FROM SUPPLIER WHERE s\_nationkey=7;

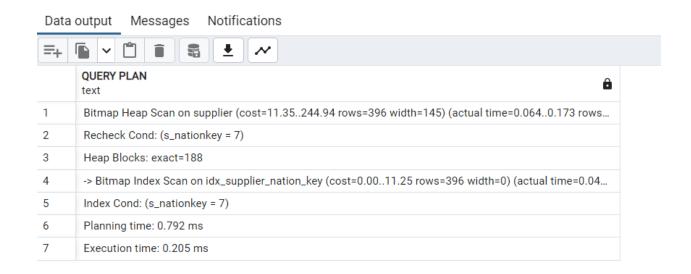


Total rows: 3 of 3 Query complete 00:00:00.037

**AFTER INDEXING: -**

# EXPLAIN ANALYZE SELECT \* FROM SUPPLIER WHERE s\_nationkey=7;

CREATE INDEX IDX\_SUPPLIER\_NATION\_KEY ON SUPPLIER (S\_NATIONKEY);

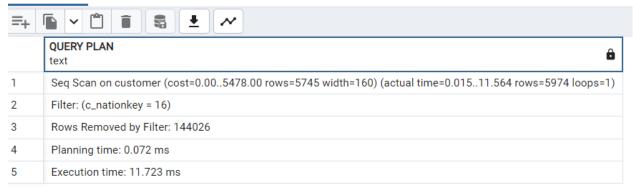


Total rows: 7 of 7 Query complete 00:00:00.038

### 2. BEFORE INDEXING ANALYSIS: -

SELECT \* FROM CUSTOMER; EXPLAIN ANALYZE SELECT \* FROM CUSTOMER WHERE c\_nationkey=16;



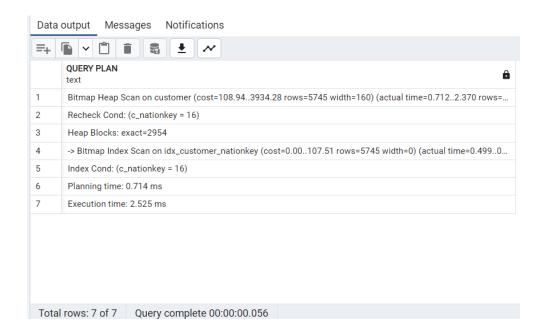


Total rows: 5 of 5 Query complete 00:00:00.083

#### **AFTER**

SELECT \* FROM CUSTOMER; EXPLAIN ANALYZE SELECT \* FROM CUSTOMER WHERE c\_nationkey=16;

CREATE INDEX IDX\_CUSTOMER\_NATIONKEY ON CUSTOMER (C\_NATIONKEY);



#### 3. BEFORE INDEXING ANALYSIS: -

SET SEARCH\_PATH TO 'TPCH\_DB'

**EXPLAIN ANALYZE** 

SELECT PS\_PARTKEY, SUM(PS\_SUPPLYCOST\*PS\_AVAILQTY) AS VALUE FROM PARTSUPP, SUPPLIER, NATION

WHERE PS\_SUPPKEY = S\_SUPPKEY AND S\_NATIONKEY = N\_NATIONKEY AND N\_NAME = 'GERMANY'

GROUP BY PS\_PARTKEY

HAVING SUM(PS SUPPLYCOST\*PS AVAILQTY) > (SELECT

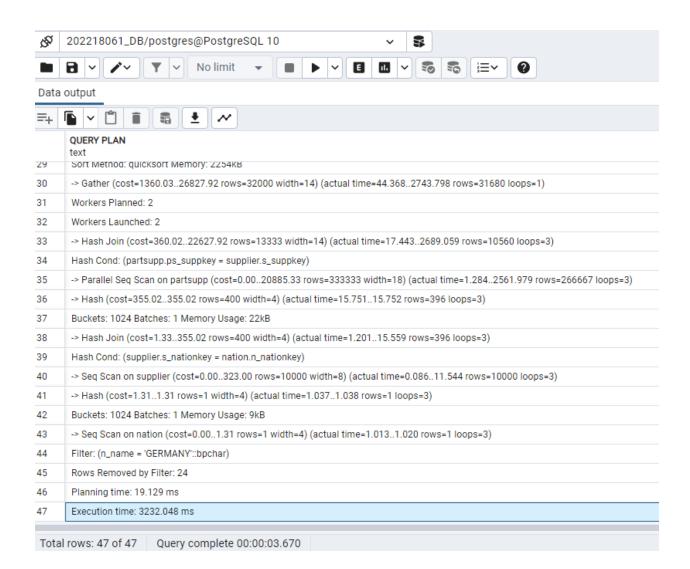
SUM(PS\_SUPPLYCOST\*PS\_AVAILQTY) \*

0.0001000000

FROM PARTSUPP, SUPPLIER, NATION

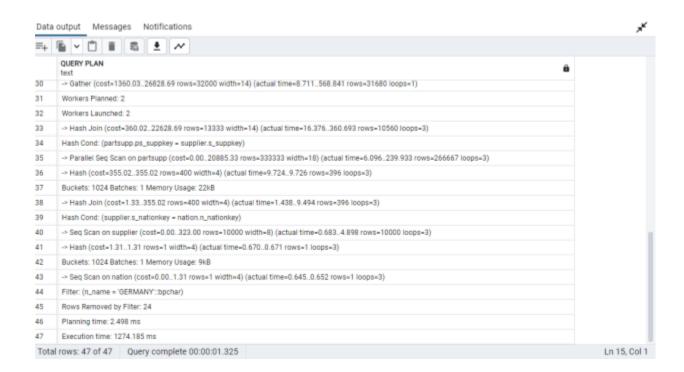
WHERE PS\_SUPPKEY = S\_SUPPKEY AND S\_NATIONKEY = N\_NATIONKEY AND N\_NAME = 'GERMANY')

ORDER BY VALUE DESC;



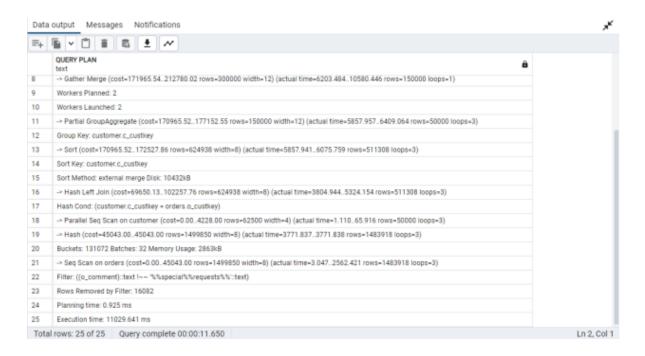
#### **AFTER INDEXING: -**

CREATE INDEX idx\_n\_nationkey on NATION(N\_NATIONKEY)



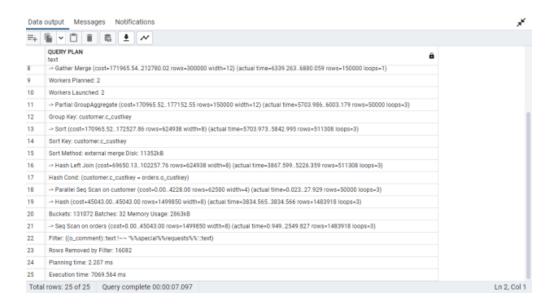
#### **4.BEFORE INDEXING: -**

SELECT C\_COUNT, COUNT(\*) AS CUSTDIST FROM (SELECT C\_CUSTKEY, COUNT(O\_ORDERKEY) FROM CUSTOMER left outer join ORDERS on C\_CUSTKEY = O\_CUSTKEY AND O\_COMMENT not like '%%special%%requests%%' GROUP BY C\_CUSTKEY) AS C\_ORDERS (C\_CUSTKEY, C\_COUNT) GROUP BY C\_COUNT ORDER BY CUSTDIST DESC, C\_COUNT DESC



#### **AFTER INDEXING:-**

## CREATE INDEX idx\_orderkey on ORDERS(O\_ORDERKEY)

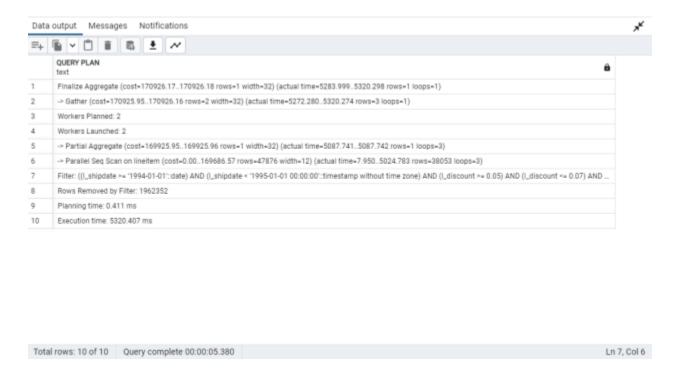


#### 5. BEFORE INDEXING:-

EXPLAIN ANALYZE
SELECT SUM(L\_EXTENDEDPRICE\*L\_DISCOUNT) AS REVENUE
FROM LINEITEM

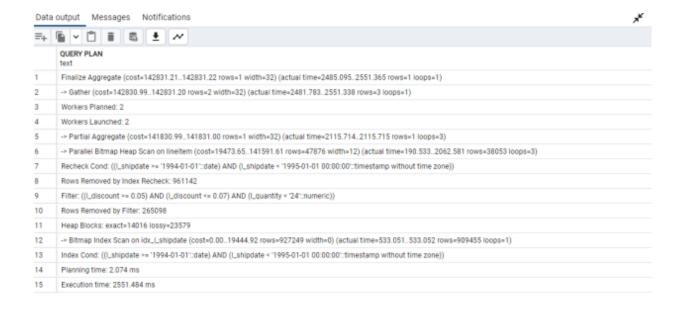
WHERE L\_SHIPDATE >= '1994-01-01' AND L\_SHIPDATE <DATE '1994-01-01' + INTERVAL '1 YEAR'

AND L\_DISCOUNT BETWEEN .06 - 0.01 AND .06 + 0.01 AND L\_QUANTITY < 24;



#### **AFTER INDEXING**

CREATE INDEX idx\_I\_shipdate on LINEITEM(L\_SHIPDATE)



Total rows: 15 of 15 Query complete 00:00:02.587 Ln 2, Col 1