Batch: A1 Roll No.:

16010120006 DIKSHITA 16010120015 YASH 16010120018 JINAY

Experiment / assignment / tutorial No.:

7 LABWORK

Grade: AA / AB / BB / BC / CC / CD /DD

Title: Query processing and indexing

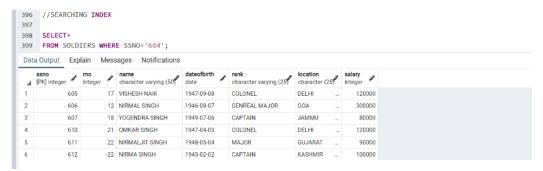
//CREATING INDEX

CREATE INDEX SSNO ON SOLDIERS(SSNO DESC);

```
392 //CREATING INDEX
393
394 CREATE INDEX SSNO ON SOLDIERS(SSNO DESC);
395
Data Output Explain Messages Notifications
CREATE INDEX
Query returned successfully in 450 msec.
```

//SEARCHING INDEX

SELECT*FROM SOLDIERS WHERE SSNO>'604';





//EXPLAIN ANALYZER

EXPLAIN ANALYZE SELECT * FROM SOLDIERS WHERE NAME = 'YOGENDRA SINGH';

402 403 404	//EXPLAIN ANALYZER
405	EXPLAIN ANALYZE SELECT * FROM SOLDIERS WHERE NAME = 'YOGENDRA SINGH';
Data	Output Explain Messages Notifications
	QUERY PLAN
1	Seq Scan on soldiers (cost=0.00.1.15 rows=1 width=306) (actual t
2] Filter: ((name)::text = YOGENDRA SINGH::text)
3] Rows Removed by Filter: 11
4	Planning Time: 0.089 ms
5	Execution Time: 0.023 ms

EXPLAIN ANALYZE SELECT * FROM SOLDIERS WHERE SSNO >604 order by NAME;



//Select query with JOIN

EXPLAIN ANALYZE SELECT *FROM RESOURCES

RIGHT JOIN ITEMS

ON resources.rname = items.ideptname;



409	
410	EXPLAIN ANALYZE SELECT *FROM RESOURCES
411	RIGHT JOIN ITEMS
412	ON resources.rname = items.ideptname;
413	
Dat	a Output Explain Messages Notifications
	QUERY PLAN
-4	text
1	Hash Left Join (cost=15.8529.02 rows=250 width=568) (actual time=9.6539.663 rows=9 loops=1)
2	[] Hash Cond: (items.ideptname = resources.rname)
3	[] -> Seq Scan on items (cost=0.0012.50 rows=250 width=288) (actual time=0.0250.027 rows=9 loops=1)
4	[] -> Hash (cost=12.6012.60 rows=260 width=280) (actual time=9.5959.596 rows=5 loops=1)
5	[] Buckets: 1024 Batches: 1 Memory Usage: 9kB
6	[] -> Seq Scan on resources (cost=0.0012.60 rows=260 width=280) (actual time=0.0090.019 rows=5 loops=1)
7	Planning Time: 30.914 ms
8	Execution Time: 9.751 ms

//Select query with aggregation

EXPLAIN ANALYZE SELECT MAX(SALARY), MIN(SALARY), AVG(SALARY) FROM SOLDIERS

```
415
416
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Data Output Explain Messages Notifications

QUERY PLAN
text

1 Aggregate (cost=1.21..1.22 rows=1 width=40) (actual time=6.785.6.786 rows=1 loops=1)

2 [...] > Seq Scan on soldiers (cost=0.00..1.12 rows=12 width=4) (actual time=0.010..0.014 rows=12 loops=1)

3 Planning Time: 0.162 ms
4 Execution Time: 6.815 ms
```

//EXPLAIN INDEX

EXPLAIN SELECT * FROM SOLDIERS WHERE SSNO < 604 ORDER BY SSNO;



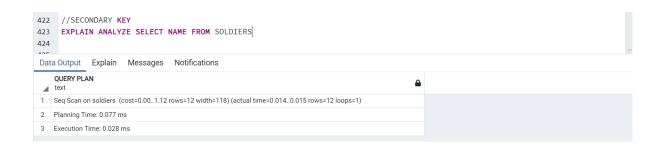
//PRIMARY KEY

EXPLAIN ANALYZE SELECT SSNO FROM SOLDIERS

418 419 420 421	//PRIMARY KEY EXPLAIN ANALYZE SELECT SSNO FROM SOLDIERS	_			
Da	ta Output Explain Messages Notifications				
4	QUERY PLAN text				
1	Seq Scan on soldiers (cost=0.00.1.12 rows=12 width=4) (actual time=0.009.0.010 rows=12 loops=1)				
2	Planning Time: 0.074 ms				
3	Execution Time: 0.018 ms				

//SECONDARY KEY

EXPLAIN ANALYZE SELECT NAME FROM SOLDIERS



//FOREIGN KEY

CREATE INDEX INDEX2 ON DEPARTMENT(DNAME)

EXPLAIN ANALYZE SELECT DNAME FROM DEPARTMENT





//COMPOSITE KEY

133	//COMPOSITE KEY
134	CREATE INDEX INDEX4 ON DEPARTMENT (DNAME, DRNO)
135	EXPLAIN ANALYZE SELECT DNAME, DRNO FROM DEPARTMENT
Dat	a Output Explain Messages Notifications
4	QUERY PLAN text
1	Seq Scan on department (cost=0.001.10 rows=10 width=108) (actual time=0.0130.015 rows=10 loops=1)
2	Planning Time: 1.524 ms
2	Execution Time: 0.027 ms