

Assignment A1

Create table, load large #rows (1 million) in multiple drives/folders. Run Explain plan and document it.

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The random insert statements along with explain analyze:

```
dbt=# DROP TABLE IF EXISTS milliontable;
CREATE TABLE milliontable(
    id varchar PRIMARY KEY,
    name varchar(10),
    age integer
);
DROP TABLE
CREATE TABLE
dbt=# EXPLAIN ANALYZE INSERT INTO milliontable (id, name, age)
SELECT (random()*100000000)::text,
       substr(md5(random()::text), 1, 10),
       (random() * 70 + 10)::integer
FROM generate_series(1, 1000000)
ON CONFLICT (id) DO NOTHING;
select count(*) from milliontable;
   count
-----
1000000
(1 row)
```

The output:

```
Insert on milliontable (cost=0.00..55000.00 rows=0 width=0) (actual time=26936.650..26936.650 rows=0 loops=1)
  Conflict Resolution: NOTHING
  Conflict Arbiter Indexes: milliontable_pkey
  Tuples Inserted: 1000000
  Conflicting Tuples: 0
  -> Subquery Scan on "*SELECT*" (cost=0.00..55000.00 rows=1000000 width=74) (actual time=66.420..1295.373 rows=1000000 loops=1)
    -> Function Scan on generate_series (cost=0.00..42500.00 rows=1000000 width=68) (actual time=66.418..1178.440 rows=1000000 loops=1)
Planning Time: 0.221 ms
Execution Time: 26938.618 ms
(9 rows)
```

A few other random explain analyze examples:

```
dbt=# explain analyze select * from milliontable where age=25;
                                QUERY PLAN
-----
Gather  (cost=1000.00..15910.63 rows=14333 width=33) (actual time=0.488..30.011 rows=14311 loops=1)
  Workers Planned: 2
  Workers Launched: 2
  -> Parallel Seq Scan on milliontable  (cost=0.00..13477.33 rows=5972 width=33) (actual time=0.019..22.353 rows=4770 loops=3)
        Filter: (age = 25)
        Rows Removed by Filter: 328563
Planning Time: 0.230 ms
Execution Time: 30.385 ms
(8 rows)
```

```
dbt=# explain analyze select * from milliontable where id LIKE '%123%';
                                QUERY PLAN
-----
Gather  (cost=1000.00..15487.43 rows=10101 width=33) (actual time=0.538..79.261 rows=12274 loops=1)
  Workers Planned: 2
  Workers Launched: 2
  -> Parallel Seq Scan on milliontable  (cost=0.00..13477.33 rows=4209 width=33) (actual time=0.073..69.217 rows=4091 loops=3)
        Filter: ((id)::text ~ '%123%':text)
        Rows Removed by Filter: 329242
Planning Time: 245.762 ms
Execution Time: 79.867 ms
(8 rows)
```