Exercise 1

Before Index creation

Cost of fetching all data
[('Seq Scan on customer (cost=0.00..4032.00 rows=100000 width=211) (actual time=0.014..13.898 rows=100000 loops=1)',), ('Planning Time: 1.454 ms',), ('Execution Time: 16.904 ms',)]

Cost of fetching data of customers with name "Maria Lopez"
[('Seq Scan on customer c (cost=0.00..4282.00 rows=2 width=211)',), (" Filter: (name ~~ 'Marie Lopez'::text)",)]

Cost of fetching data of customers with id < 100 and > 8000

[('Index Scan using customer_pkey on customer c (cost=0.29..496.06 rows=7958 width=211)',), (' Index Cond: ((id > 100) AND (id < 8000))',)]

After index creation

Cost of fetching all data

[('Seq Scan on customer (cost=0.00..4032.00 rows=100000 width=211) (actual time=0.013..8.431 rows=100000 loops=1)',), ('Planning Time: 4.057 ms',), ('Execution Time: 11.534 ms',)]

Cost of fetching data of customers with name "Maria Lopez"

[('Seq Scan on customer c (cost=0.00..4282.00 rows=2 width=211) (actual time=15.253..28.337 rows=3 loops=1)',), (" Filter: (name = 'Marie Lopez'::text)",), (' Rows Removed by Filter: 99997',), ('Planning Time: 1.264 ms',), ('Execution Time: 28.361 ms',)]

Cost of fetching data of customers with id < 100 and > 8000

[('Index Scan using customer_pkey on customer c (cost=0.29..496.06 rows=7958 width=211) (actual time=0.049..4.007 rows=7899 loops=1)',), (' Index Cond: ((id > 100) AND (id < 8000))',), ('Planning Time: 2.813 ms',), ('Execution Time: 4.380 ms',)]

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 Wilson',), ('Sue Roberts',), ('Jessica Russell',), ('Charles Duke',), ('Kevi
n Harrell',), ('Kyle Sherman',), ('Samantha Snyder',), ('Melissa Mcguire',),
('Erica Lloyd',), ('Jessica Mueller',), ('Heather Williams',), ('Jeffrey Holt
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a Wilson',), ('Isaac Hansen',), ('Aaron Thomas',), ('Dr. Shane Bates',), ('Ca
rl Lee',), ('Elizabeth Hess',), ('Lindsay Brock',), ('Kimberly Gibbs',), ('Ki
mberly Rogers',), ('Linda Wells',), ('Matthew Yates',), ('Austin Martinez',),
 ('Austin Melendez',), ('Jeffrey Davidson',), ('Felicia Lewis',), ('Mr. Alexa
nder Sweeney',), ('Kim Little',), ('Nicole Johnson',), ('Whitney Baker',), ('
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('Mrs. Madeline Prince DDS',), ('Francisco Lane',), ('Julie Hamilton',), ('Ed
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