```sql
------------------------------------------------
--CREATE Index
------------------------------------------------

EXPLAIN
SELECT * FROM address
WHERE phone = '223664661973';

CREATE INDEX idx_address_phone
ON address(phone);


------------------------------------------------

EXPLAIN
SELECT * FROM film
WHERE description = 'drama';

CREATE INDEX idx_film_desc
ON film(description);


------------------------------------------------
--CREATE Index - Multiple Column
------------------------------------------------

EXPLAIN
SELECT * FROM staff_test
WHERE first_name = 'Luis' AND last_name = 'Popp'

CREATE INDEX idx_staff_test_names
ON staff_test (first_name, last_name);

EXPLAIN
SELECT * FROM staff_test
WHERE first_name = 'Luis';


------------------------------------------------
--UNIQUE Indexes
------------------------------------------------

CREATE UNIQUE INDEX idx_employees_email ON employees(email);

INSERT INTO employees(first_name, last_name, email, hire_date, job_id,
salary)
VALUES ('Daniel', 'Faviet Urman', 'daniel.faviet@sqltutorial.org',
current_date, 4, 5000)


------------------------------------------------

CREATE UNIQUE INDEX idx_cust_name
ON customer(first_name, last_name, email);

CREATE UNIQUE INDEX idx_payment
ON payment(customer_id, rental_id);
```

```sql
-----------------------------------------------------
--Index on Expression
-----------------------------------------------------

EXPLAIN
SELECT
    customer_id, store_id
    first_name, last_name
FROM customer
WHERE last_name = 'Ely';

EXPLAIN
SELECT
    customer_id, store_id
    first_name, last_name
FROM customer
WHERE lower(last_name) = 'ely';

CREATE INDEX idx_ic_last_name
ON customer(LOWER(last_name));


-----------------------------------------------------
--Partial Index
-----------------------------------------------------

EXPLAIN
SELECT
    customer_id,
    first_name, last_name
FROM customer
WHERE active = 0;

CREATE INDEX idx_customer_inactive
ON customer(active)
WHERE active = 0;


-----------------------------------------------------
--DROP Index
-----------------------------------------------------

DROP INDEX idx_emp_job_id

-----------------------------------------------------
--List Indexes
-----------------------------------------------------

--List of all indexes
SELECT tablename, indexname, indexdef
FROM pg_indexes
WHERE schemaname = 'public'
ORDER BY 1, 2;

--Usage statistics of indexes

SELECT schemaname, relname,
       indexrelname, idx_scan
FROM pg_stat_user_indexes
ORDER BY idx_scan;
```

```
------------------------------------------------------------
--EXERCISE ANSWERS
------------------------------------------------------------


--------------------------------------------------------
--Create Index
--------------------------------------------------------

Table: address
Column(s): district
Type: Normal

CREATE INDEX idx_address_district ON address(district);


----------------------------------------------------------------

Table: actor
Column(s): first_name, last_name
Type: Normal

CREATE INDEX idx_actor_first_last_name ON actor(first_name, last_name);


----------------------------------------------------------------

Table: student
Column(s): name, course_name
Type: Unique

CREATE UNIQUE INDEX idx_student_name_cname ON student(name, course_name);


----------------------------------------------------------------

Table: product
Column(s): segment_id
Type: Partial (segment_id = 1)

CREATE INDEX idx_part_product_segment_id ON product(segment_id)
WHERE segment_id = 1
```