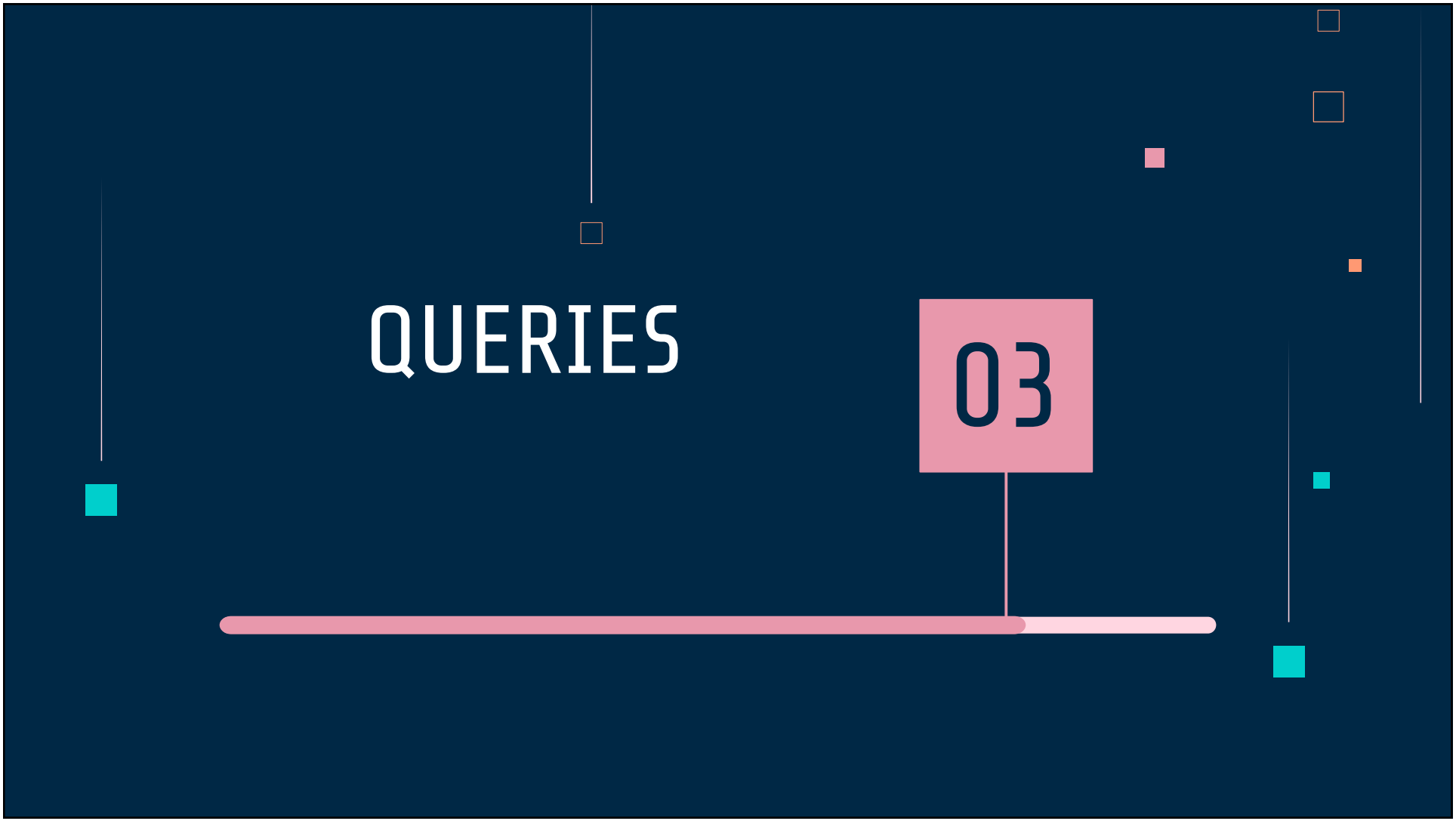

Bases de datos
SQL Basics


QUERIES
03

ESTRUCTURA GENERAL DE UNA QUERY

SELECT

Se seleccionan todos los campos que se desean consultar

- SELECT
- AGGREGATE FUNCTIONS

FROM

Se seleccionan las tablas de las cuales se extraen esos campos

- DEFINE TABLES
- JOINS

WHERE

Se filtran los resultados según las condiciones deseadas

- CONDITIONALS AND OPERATORS

GROUP BY

Se agrupan los resultados según todos los campos no calculados

- AGGREGATE FUNCTIONS

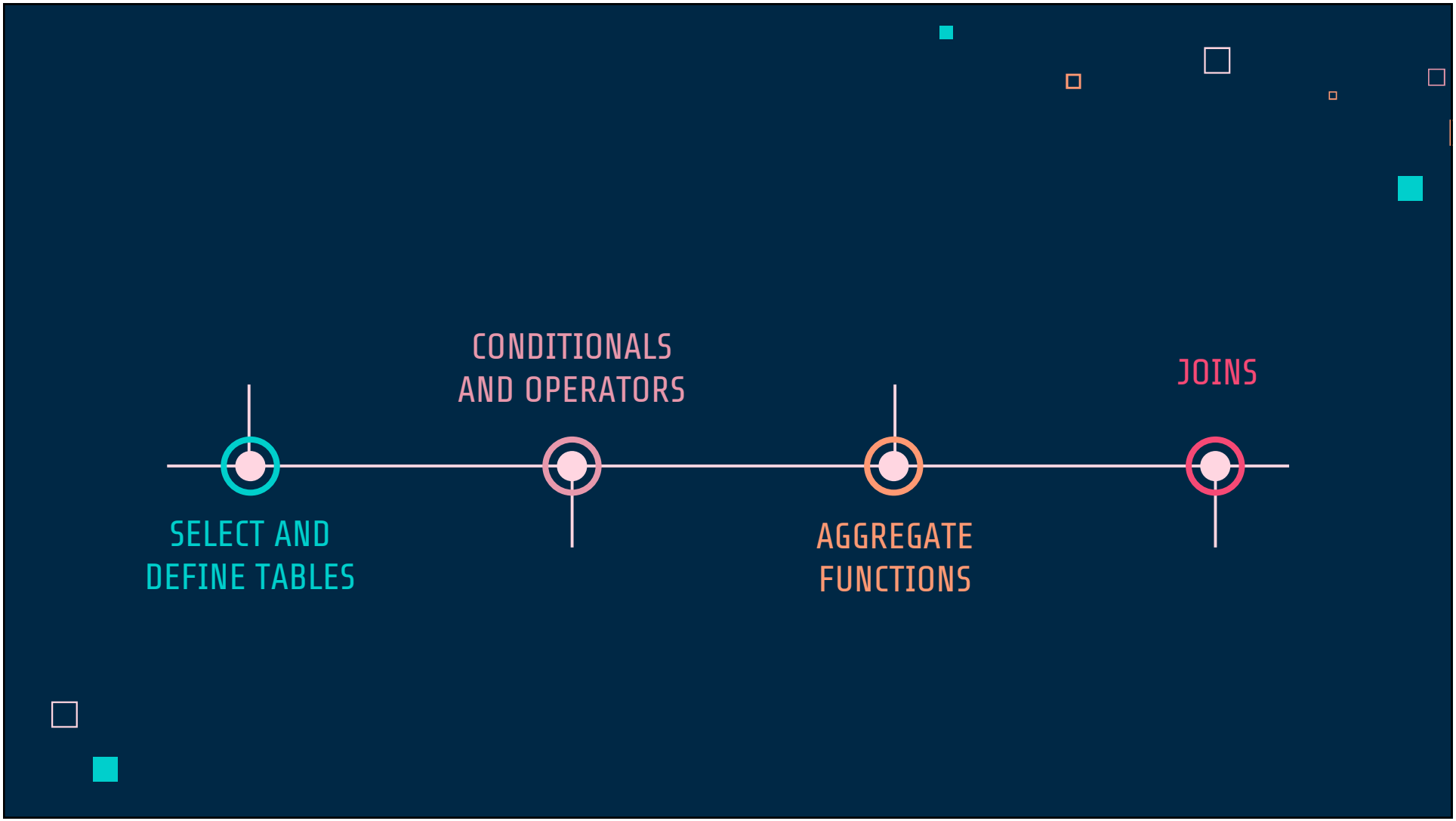
HAVING

Se filtran los resultados según las condiciones deseadas para los campos calculados

- AGGREGATE FUNCTIONS

ORDER BY

Se ordenan los resultados según las columnas que se elijan con el orden deseado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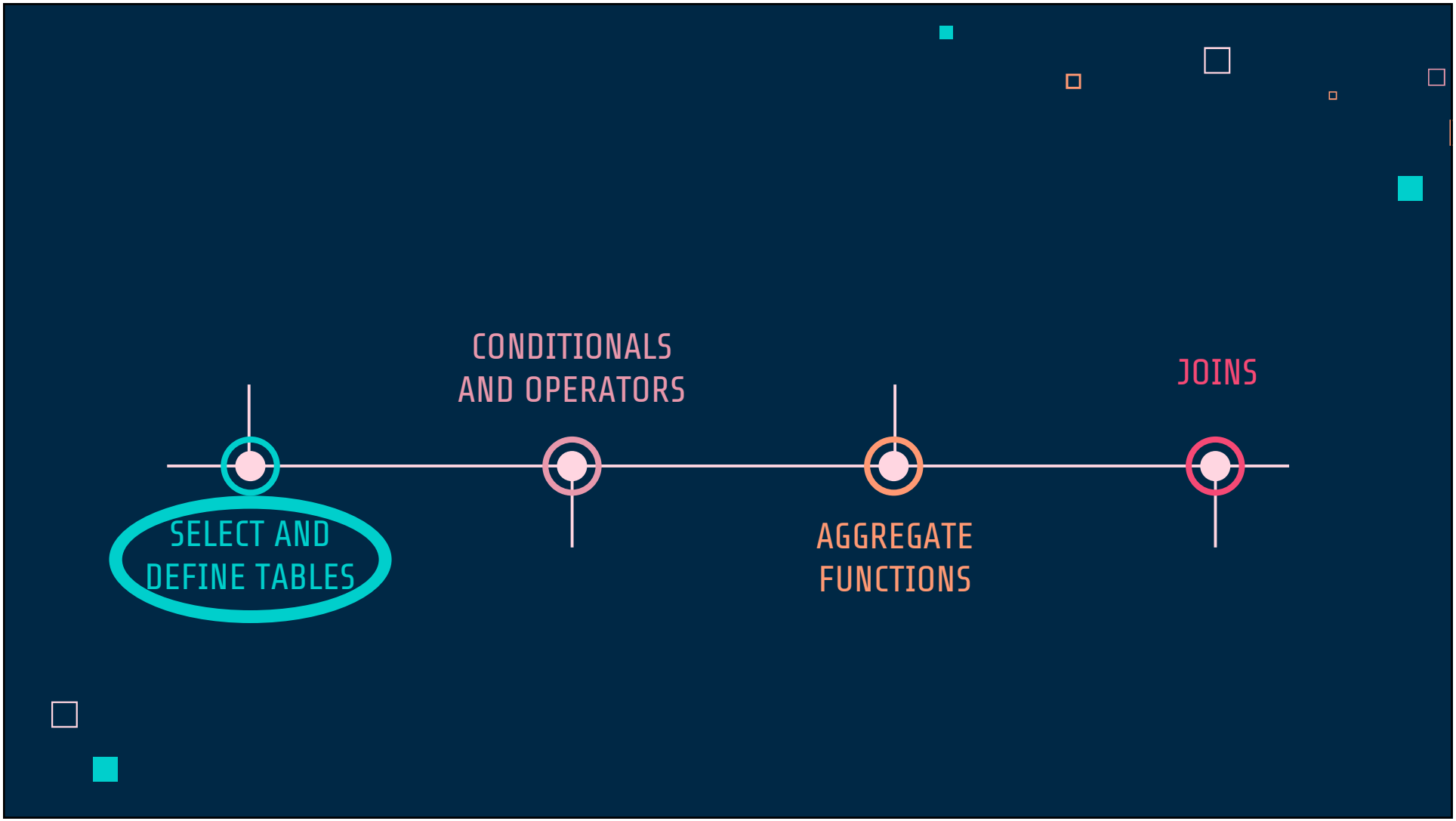
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SELECT

- Select partial table contents by placing restrictions on rows to be included in output.
- Add conditional restrictions to SELECT statement, using WHERE clause.

- Syntax:

```
SELECT *
FROM table_name;

SELECT Col1,Col2,...,Coln
FROM table_name
[ WHERE conditionlist ] ;
```

CREATE ,DROP AND DELETE TABLES

CREATE TABLE

- Used to create a new table
- Syntax:

```
CREATE TABLE scheme.table_name (
            column1 datatype primary key,
            column2 datatype,
            column3 datatype,
            .... );
CREATE TABLE  scheme .table_name AS (
            SELECT columnlist
            FROM table_name);
```

DELETE TABLE

- Used to drop data in a table
- Syntax:

```
DELETE FROM table_name
[WHERE conditionlist ];
```

DROP TABLE

- Used to drop an entire table
- Syntax:

```
DROP TABLE table_name;
```

ADD,UPDATE AND ALTER TABLE ROWS

ADDING TABLE ROWS

- To enter data into table
- Syntax:

INSERT INTO table_name
[(column1, column2, ...)]
VALUES (value1,value2,...);

UPDATE

- Modify data in a table
- Syntax:

UPDATE tablename
SET columnname =
expression
WHERE conditionlist];

- If more than one attribute is to be updated in row, separate corrections with commas

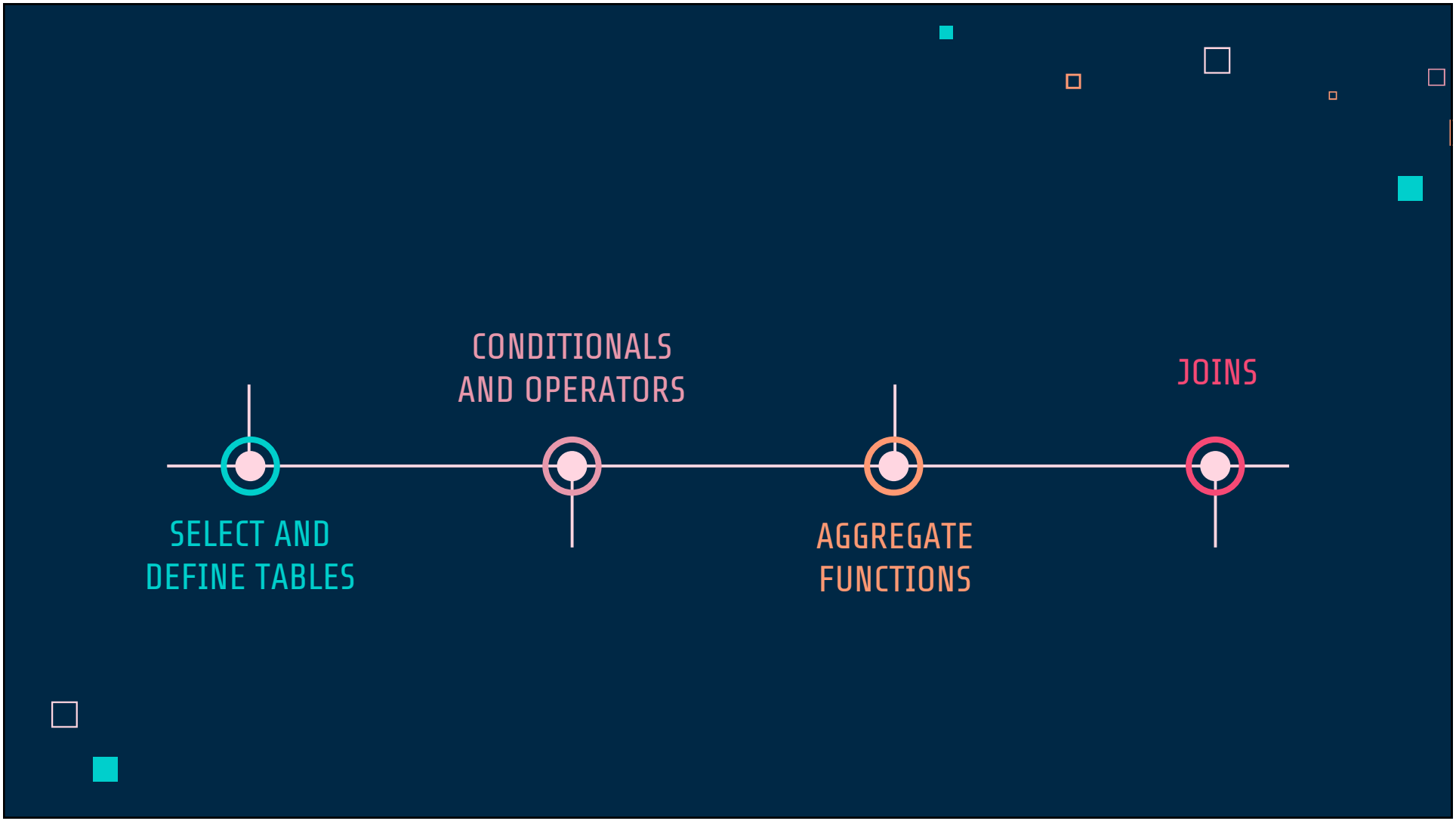
ALTER

- Alter conditions from a table
- Syntax:

1)ALTER TABLE table_name
ADD COLUMN new_c TYPE;

2)ALTER TABLE table_name
RENAME COLUMN col_1
TO new_name;

*WHERE condition is optional
If WHERE condition is not specified, all rows from specified table will be updated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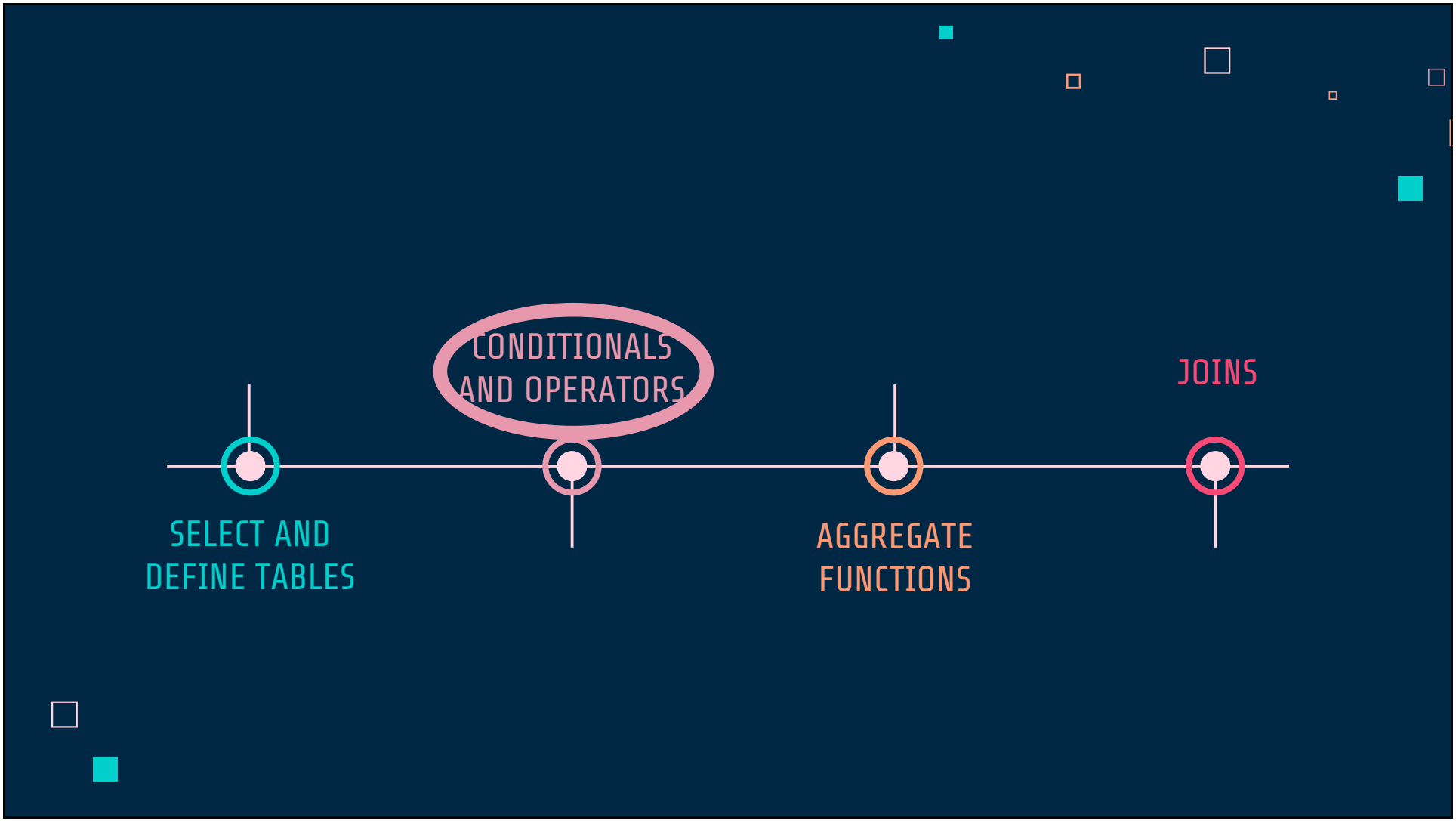
CONDITIONALS
AND OPERATORS
JOINS
SELECT AND
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CONDITIONALS: COMPARISON OPERATORS

- Used in conditional expressions
- Syntax:

```
SELECT columnlist
FROM tablelist
WHERE
<expression>[comparison
operator]<expression>;
```

Operator	Description
=	Equal to
>	Greater than
<	Less than
>=	Greater than or equal to
<=	Less than or equal to
<>	Not equal to

CONDITIONALS: LOGICAL OPERATORS

- Combine conditional expressions to return true or false values:
- Syntax:

```
SELECT columnlist
FROM tablelist
WHERE condition1 AND (condition2 OR condition3) ...;
```

```
SELECT columnlist
FROM tablelist
WHERE NOT condition1 ...;
```

CONDITIONALS: SPECIAL OPERATORS

BETWEEN → BETWEEN DATE '2020-08-01' AND DATE '2020-08-31'

- Used to check whether attribute value is within a range

IS NULL or IS NOT NULL → SURENAME IS NULL

- Used to check whether attribute value is null

LIKE → TRACKING_CODE LIKE '%DELIVERED%'

- Used to check whether attribute value matches given string pattern

IN or NOT IN → ID IN (SELECT * FROM table_one)

- Used to check whether attribute value matches any value within a value list

CONDITIONALS: SPECIAL OPERATORS

DISTINCT → SELECT DISTINCT NAMES FROM CLIENTES;

- Limits values to unique values

AS

- Use to rename columns
- Syntax:

```
SELECT column1 AS Name, column2 AS Surname
FROM table1;
```

ORDER BY → SELECT NAME, QUANTITY FROM CLIENTES ORDER BY 2 DESC;

- Use to sort data in descending or ascending order.

¡TIPS!

Mantener estructura al escribir

; → al final de cada query

Distinct → muestra únicos, usar siempre

Limit / Top → limita los resultados = más rápido

'%Alvarez' → el % == cualquier caracter

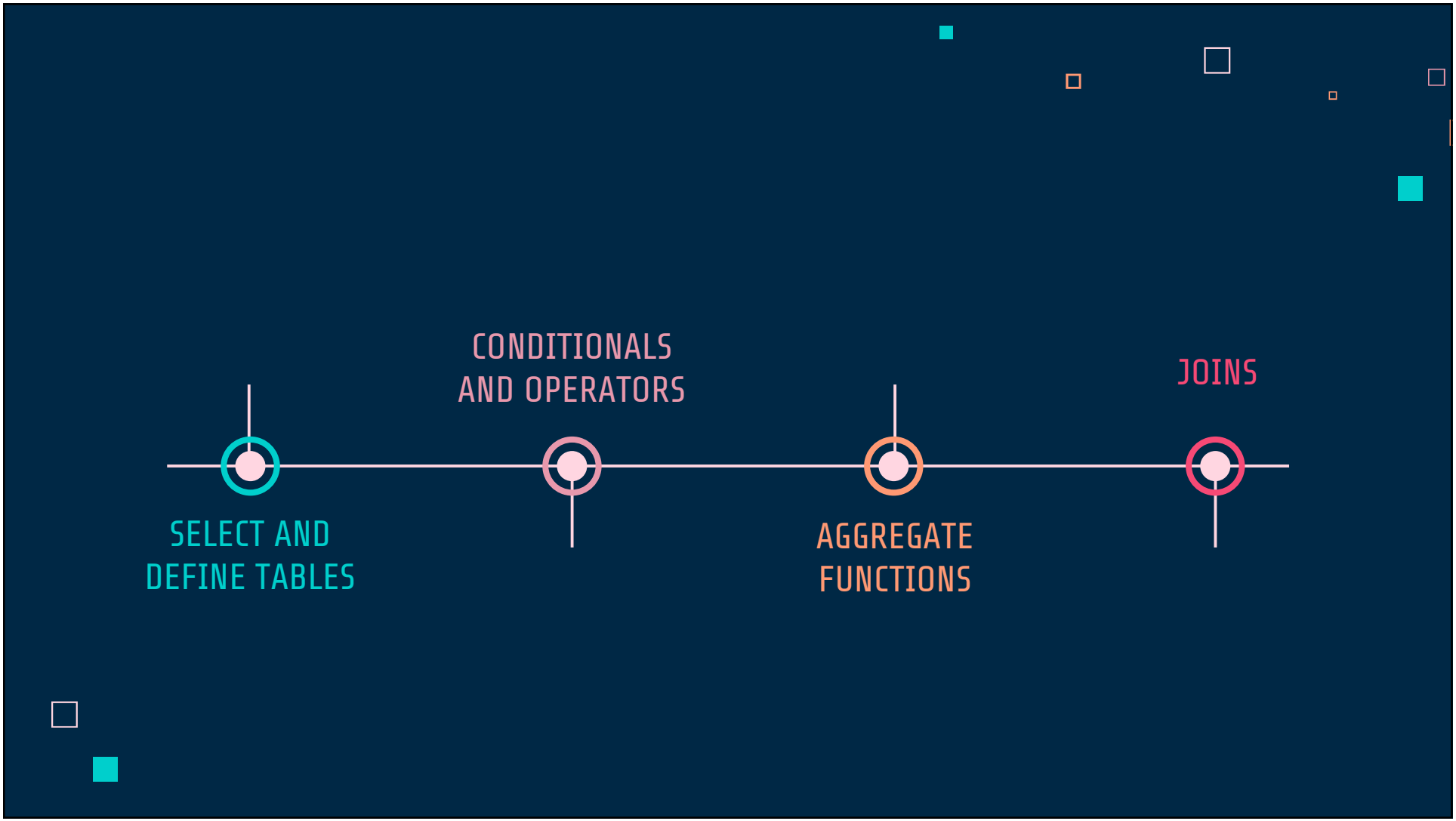
OPERATORS

Common Arithmetic Operators :

- Add +
- Subtract -
- Multiply *
- Divide /
- Raise to the power of ^ or **

¡EJERCICIO RÁPIDO: OPERATORS!

1. Seleccionar de info.d00_ventas las ventas que tengan descuento mayor a 0 y calcular para cada sku de cada boleta_id en un nuevo campo “porcentaje_descuento” la proporción que significa ese descuento respecto del precio.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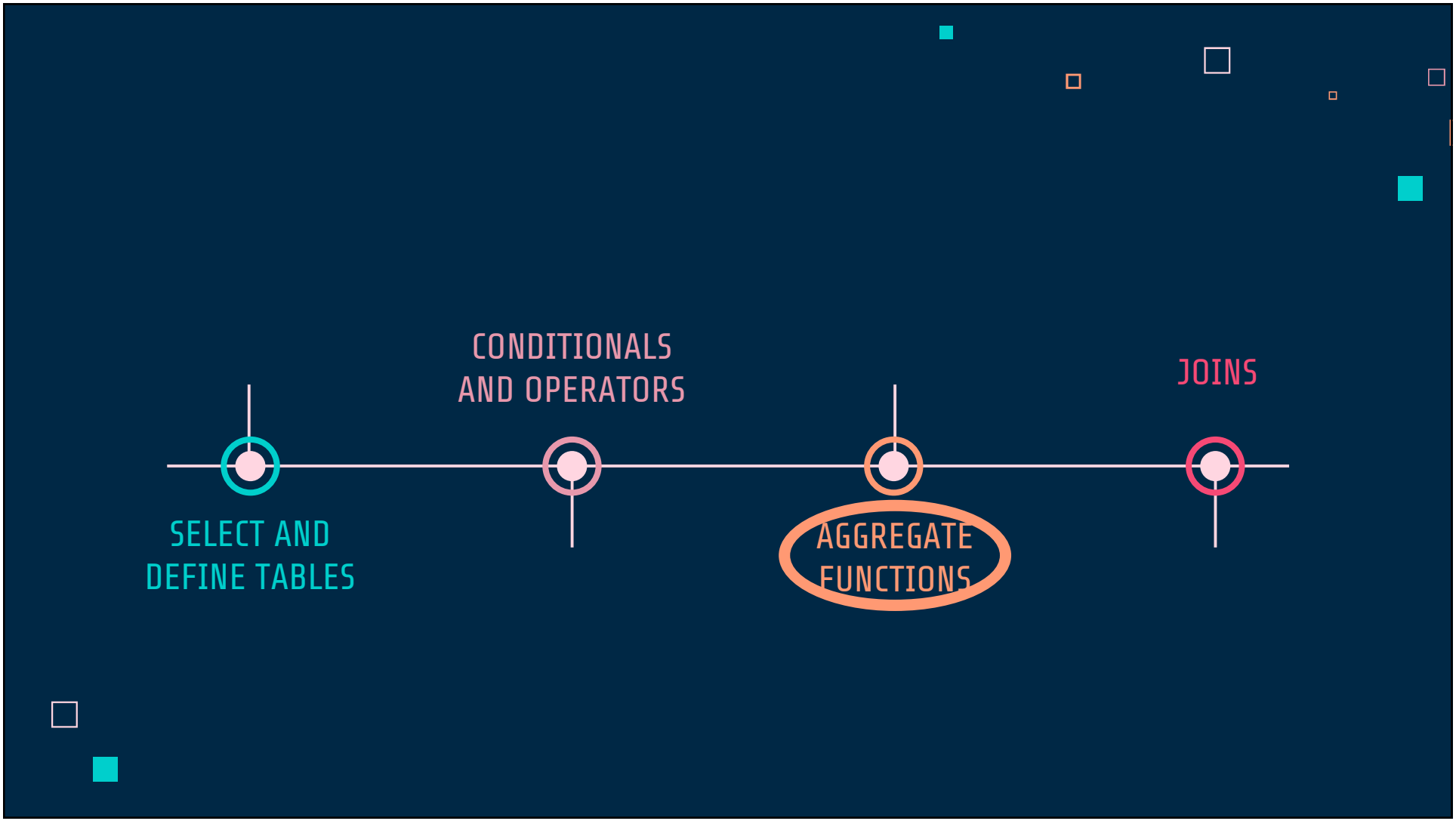
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AGGREGATE FUNCTIONS

Common Aggregate functions :

- Avg (expression)
- Count (expression) or Count (*)
- Sum (expression)
- Min/Max (expression)

Statistics Aggregate functions:

- Corr (Y, X)
- Sttdev (expression)
- Variance (expression)

AGGREGATE FUNCTIONS

- Aggregate functions compute a single result from a set of input values.
- Syntax:

```
SELECT column_name(s), AGGREGATE_FUNCTION() AS column_name
FROM table_name
WHERE condition
GROUP BY column_name(s)
HAVING condition
ORDER BY column_name(s);
```

* AGGREGATE FUNCTIONS need a GROUP BY clause always !!!!!!!!!!
* HAVING clause is use to conditionate aggregate functions.