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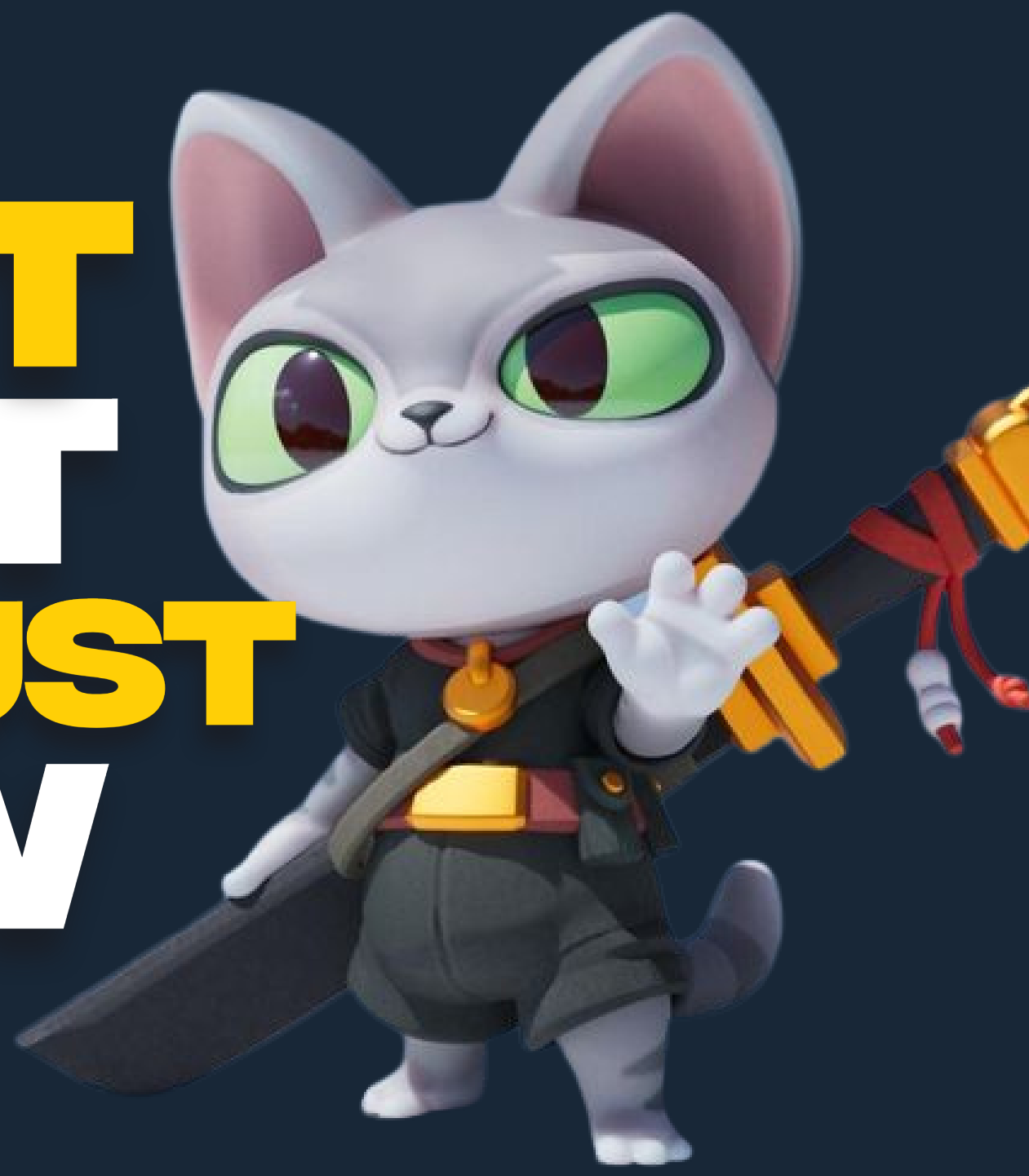
SQL CHEAT SHEET YOU MUST KNOW



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SQL BASICS CHEAT SHEET

SQL, or Structured Query Language, is a language to talk to databases. It allows you to select specific data and to build complex reports. Today, SQL is a universal language of data. It is used in practically all technologies that process data

SAMPLE DATA

COUNTRY

id	name	population	area
1	France	66600000	640680
2	Germany	80700000	357000
...	...	...	...

CITY

id	name	country_id	population	rating
1	Paris	1	2243000	5
2	Berlin	2	3460000	3
...	...	...	...	...

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QUERYING SINGLE TABLE

Fetch all columns from the country table:	SELECT * FROM country;
Fetch id and name columns from the city table:	SELECT id, name FROM city;
Fetch city names sorted by the rating column in the default ASCending order:	SELECT name FROM city ORDER BY rating [ASC];
Fetch city names sorted by the rating column in the DESCending order:	SELECT name FROM city ORDER BY rating DESC;

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ALIASES

COLUMNS	SELECT name AS city_nameFROM city;
TABLES	SELECT co.name, ci.name FROM city AS ci JOIN country AS co ON ci.country_id = co.id;

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FILTERING THE OUTPUT

COMPARISON OPERATORS

Fetch names of cities that have a rating above 3:

```
SELECT name
FROM city
WHERE rating > 3;
```

Fetch names of cities that are neither Berlin nor Madrid:

```
SELECT name
FROM city
WHERE name != 'Berlin'
AND name != 'Madrid';
```

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FILTERING THE OUTPUT

TEXT OPERATORS

Fetch names of cities that start with a 'P' or end with an 's':

```
SELECT name
FROM city
WHERE name LIKE 'P%'
OR name LIKE '%s';
```

Fetch names of cities that start with any letter followed by 'ublin' (like Dublin in Ireland or Lublin in Poland):

```
SELECT name
FROM city
WHERE name LIKE
'_ublin';
```

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FILTERING THE OUTPUT

OTHER OPERATORS

Fetch names of cities that have a population between 500K and 5M:

```
SELECT name
FROM city
WHERE population
BETWEEN 500000 AND
5000000;
```

Fetch names of cities that are in countries with IDs 1, 4, 7, or 8:

```
SELECT name FROM
city WHERE country_id
IN (1, 4, 7, 8);
```

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INNER JOIN

JOIN (or explicitly INNER JOIN) returns rows that have matching values in both tables.

```
SELECT city.name, country.name
FROM city
[INNER] JOIN country
ON city.country_id = country.id;
```

CITY			COUNTRY	
id	name	country_id	id	name
1	Paris	1	1	France
2	Berlin	2	2	Germany
3	Warsaw	4	3	Iceland

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LEFT JOIN

LEFT JOIN returns all rows from the left table with corresponding rows from the right table. If there's no matching row, NULLs are returned as values from the second table.

```
SELECT city.name, country.name
FROM city
LEFT JOIN country
 ON city.country_id = country.id;
```

CITY			COUNTRY	
id	name	country_id	id	name
1	Paris	1	1	France
2	Berlin	2	2	Germany
3	Warsaw	4	NULL	NULL

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RIGHT JOIN

RIGHT JOIN returns all rows from the right table with corresponding rows from the left table. If there's no matching row, NULLs are returned as values from the left table.

```
SELECT city.name, country.name
FROM city
RIGHT JOIN country
 ON city.country_id = country.id;
```

CITY			COUNTRY	
id	name	country_id	id	name
1	Paris	1	1	France
2	Berlin	2	2	Germany
NULL	NULL	NULL	3	Iceland

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FULL JOIN

FULL JOIN (or explicitly FULL OUTER JOIN) returns all rows from both tables – if there's no matching row in the second table, NULLs are returned.

```
SELECT city.name, country.name
FROM city
FULL [OUTER] JOIN country
ON city.country_id = country.id;
```

CITY			COUNTRY	
id	name	country_id	id	name
1	Paris	1	1	France
2	Berlin	2	2	Germany
3	Warsaw	4	NULL	NULL
NULL	NULL	NULL	3	Iceland

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CROSS JOIN

CROSS JOIN returns all possible combinations of rows from both tables. There are two syntaxes available.

```
SELECT city.name, country.name
FROM city
CROSS JOIN country;
```

```
SELECT city.name, country.name
FROM city, country;
```

CITY			COUNTRY	
id	name	country_id	id	name
1	Paris	1	1	France
1	Paris	1	2	Germany
2	Berlin	2	1	France
2	Berlin	2	2	Germany

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NATURAL JOIN

NATURAL JOIN will join tables by all columns with the same name.

```
SELECT city.name, country.name
FROM city
NATURAL JOIN country;
```

CITY			COUNTRY	
country_id	id	name	name	id
6	6	San Marino	San Marino	6
7	7	Vatican City	Vatican City	7
5	9	Greece	Greece	9
10	11	Monaco	Monaco	10

NATURAL JOIN used these columns to match rows: city.id, city.name, country.id, country.name.

NATURAL JOIN is very rarely used in practice.

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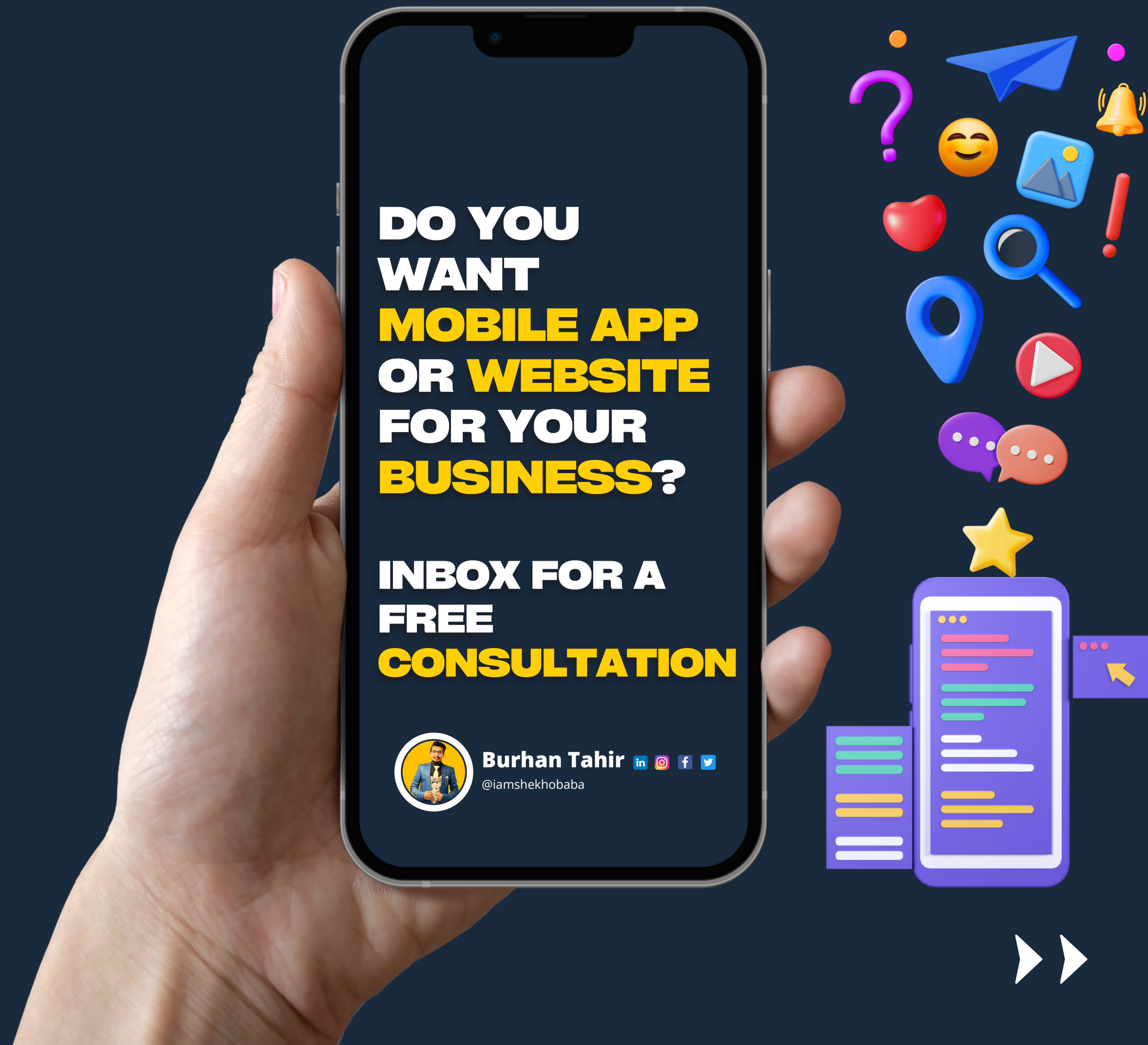

THANK YOU!!

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