

SQL PROJECT.

## 1.WHY SQL IS IMPORTANT.

SQL is used to communicate with a database. SQL statements are used to perform tasks such as update data on a database, or retrieve data from a database.

## 2 .SUBCOUNTY POPULATION DENSITY.

```
create database if not exists final_project;
```

```
use final_project;
```

```
CREATE TABLE subcounty_population_density (  
    id INT NOT NULL AUTO_INCREMENT PRIMARY KEY,  
    county_name VARCHAR(250) NOT NULL,  
    subcounty_name VARCHAR(500) NOT NULL,  
    total INT,  
    male INT,  
    female INT,  
    square_kms INT,  
    pop_density INT  
);
```

```
INSERT INTO subcounty_population_density (  
    county_name, subcounty_name, total, male, female, square_kms, pop_density  
) VALUES  
("Mombasa", "CHANGAMWE", 131882, 68761, 63121, 18, 7457),  
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("Garissa", "HULUGHO", 133984, 78081, 55898, 7737, 17),  
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("Kakamega", "MUMIAS EAST", 116851, 55895, 60953, 150, 778),

## SQL PROJECT.

("Kakamega", "MUMIAS WEST", 115354, 54915, 60438, 163, 706),  
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("Vihiga", "LUANDA", 106694, 51525, 55165, 84, 1265),  
("Vihiga", "HAMISI", 159241, 76901, 82337, 157, 1013),  
("Vihiga", "KAKAMEGA FOREST", 17, 13, 4, 32, 1),  
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("Bungoma", "BUNGOMA EAST", 114548, 55775, 58771, 163, 702),  
("Bungoma", "BUNGOMA NORTH", 121317, 58790, 62526, 192, 633),  
("Bungoma", "BUNGOMA SOUTH", 287765, 139705, 148055, 321, 896),  
("Bungoma", "CHEPTAIS", 136035, 67717, 68312, 223, 610),  
("Bungoma", "KIMILILI", 162038, 78560, 83475, 180, 902),  
("Bungoma", "MT ELGON", 78873, 38977, 39893, 126, 624),  
("Bungoma", "BUNGOMA WEST", 119875, 58225, 61649, 211, 568),  
("Bungoma", "TONGAREN", 100343, 48685, 51657, 185, 542),  
("Bungoma", "WEBUYE WEST", 152515, 74180, 78331, 239, 638),  
("Bungoma", "MT ELGON FOREST", 3621, 1862, 1759, 606, 6),  
("Busia", "BUNYALA", 85977, 41465, 44511, 192, 447),  
("Busia", "BUSIA", 142408, 69034, 73373, 196, 727),  
("Busia", "BUTULA", 140334, 65136, 75195, 247, 568),  
("Busia", "NAMBALE", 111636, 52900, 58732, 238, 469),  
("Busia", "SAMIA", 107176, 50821, 56341, 262, 408),  
("Busia", "TESO NORTH", 138034, 66412, 71619, 261, 529),  
("Busia", "TESO SOUTH", 168116, 80484, 87630, 303, 555),  
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("Siaya", "GEM", 179792, 85696, 94092, 405, 444),

## SQL PROJECT.

("Siaya", "UGENYA", 134354, 62624, 71726, 324, 415),  
("Siaya", "UGUNJA", 104241, 48912, 55329, 201, 519),  
("Siaya", "BONDO", 197883, 95962, 101917, 599, 330),  
("Siaya", "RARIEDA", 152570, 72569, 79999, 402, 379),  
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("Kisumu", "KISUMU CENTRAL", 174145, 84155, 89985, 37, 4737),  
("Kisumu", "KISUMU WEST", 172821, 85697, 87121, 209, 827),  
("Kisumu", "SEME", 121667, 57658, 64007, 268, 454),  
("Kisumu", "MUHORONI", 154116, 76770, 77345, 658, 234),  
("Kisumu", "NYANDO", 161508, 77121, 84380, 446, 362),  
("Kisumu", "NYAKACH", 150320, 71237, 79082, 327, 460),  
("Homa Bay", "HOMA BAY", 117439, 55756, 61681, 182, 645),  
("Homa Bay", "NDHIWA", 218136, 103706, 114422, 713, 306),  
("Homa Bay", "RACHUONYONORTH", 178686, 85409, 93273, 435, 410),  
("Homa Bay", "RACHUONYOEAST", 121822, 57709, 64111, 251, 486),  
("Homa Bay", "RACHUONYOSOUTH", 130814, 61663, 69151, 256, 511),  
("Homa Bay", "RANGWE", 117732, 55404, 62325, 274, 429),  
("Homa Bay", "SUBA NORTH", 124938, 60530, 64406, 406, 307),  
("Homa Bay", "SUBA SOUTH", 122383, 59383, 62998, 634, 193),  
("Migori", "AWENDO", 117290, 56348, 60939, 255, 459),  
("Migori", "KURIA EAST", 96872, 46969, 49894, 188, 516),  
("Migori", "KURIA WEST", 208513, 101090, 107417, 396, 527),  
("Migori", "NYATIKE", 176162, 83989, 92164, 677, 260),  
("Migori", "RONGO", 124587, 59257, 65329, 213, 584),  
("Migori", "SUNA EAST", 122674, 58977, 63694, 205, 598),  
("Migori", "SUNA WEST", 128890, 61430, 67459, 288, 448),  
("Migori", "URIRI", 141448, 68127, 73318, 392, 361),  
("Kisii", "ETAGO", 83787, 40137, 43647, 108, 773),  
("Kisii", "GUCHA", 83740, 39631, 44108, 82, 1020),

## SQL PROJECT.

("Kisii", "GUCHA SOUTH", 83623, 40022, 43598, 95, 878),  
("Kisii", "KENYENYA", 131740, 62859, 68878, 142, 930),  
("Kisii", "KISII CENTRAL", 166906, 81330, 85573, 136, 1229),  
("Kisii", "KISII SOUTH", 135134, 64514, 70615, 128, 1054),  
("Kisii", "KITUTU CENTRAL", 154175, 74608, 79561, 100, 1537),  
("Kisii", "MARANI", 107464, 50598, 56864, 128, 837),  
("Kisii", "MASABA SOUTH", 122396, 58143, 64248, 161, 759),  
("Kisii", "NYAMACHE", 130898, 62113, 68782, 163, 805),  
("Kisii", "SAMETA", 66997, 31829, 35164, 79, 847),  
("Nyamira", "BORABU", 73167, 36736, 36431, 247, 296),  
("Nyamira", "MANGA", 94209, 44868, 49339, 111, 845),  
("Nyamira", "MASABA NORTH", 111860, 52884, 58974, 142, 789),  
("Nyamira", "NYAMIRA NORTH", 167267, 80314, 86947, 216, 775),  
("Nyamira", "NYAMIRA SOUTH", 159073, 76105, 82965, 182, 876),  
("Nairobi", "DAGORETTI", 434208, 217651, 216526, 29, 14908),  
("Nairobi", "EMBAKASI", 988808, 492476, 496270, 86, 11460),  
("Nairobi", "KAMUKUNJI", 268276, 136670, 131599, 11, 25455),  
("Nairobi", "KASARANI", 780656, 381234, 399385, 86, 9063),  
("Nairobi", "KIBRA", 185777, 94199, 91569, 12, 15311),  
("Nairobi", "LANG'ATA", 197489, 96698, 100774, 217, 911),  
("Nairobi", "MAKADARA", 189536, 96369, 93157, 12, 16150),  
("Nairobi", "MATHARE", 206564, 106522, 100028, 3, 68940),  
("Nairobi", "NJIRU", 626482, 307642, 318809, 130, 4821),  
("Nairobi", "STAREHE", 210423, 109173, 101238, 21, 10205),  
("Nairobi", "WESTLANDS", 308854, 153818, 155021, 98, 3167);

### a) Subcounty Population density

SQL statement to display specific columns the county name, subcounty name, total population, square kilometers and population density for all records.

SQL PROJECT.

```
select county_name, subcounty_name, total, square_kms, pop_density
from subcounty_population_density;
```

b) SQL Query to display the county\_name, subcounty\_name, total, male, female sorted by female population. Subcounty with highest female population is on top.

```
select county_name, subcounty_name, total, male, female
from subcounty_population_density
order by female desc;
```

c) SQL query to calculate total population of all sub counties. (Use SQL aggregate functions)

```
SELECT county_name, SUM(total) AS total_pop
FROM subcounty_population_density
GROUP BY county_name
ORDER BY total_pop;
```

d) SQL query that retrieves the county\_name, the average population density of the subcounties. Order the retrieved results by county name first and then population density descending. (Group by aggregate function)

```
SELECT county_name, AVG(pop_density) As avg_pop_density
FROM subcounty_population_density
GROUP BY county_name
order by avg_pop_density desc;
```

SQL PROJECT.

e) SQL query to retrieve rows where the subcounty is in Nyandarua county. Notice some of these subcounties have typing mistakes. Update the names of the subcounties without typing mistakes. (SQL UPDATE query)

```
select * FROM subcounty_population_density
where county_name = "nyandarua";
```

```
UPDATE subcounty_population_density
SET subcounty_name = "NYANDARUA SOUTH"
WHERE subcounty_name = "NYANDARUASOUTH";
```

```
UPDATE subcounty_population_density
SET subcounty_name = "NYANDARUA CENTRAL"
WHERE subcounty_name = "NYANDARUACENTRAL";
```

```
UPDATE subcounty_population_density
SET subcounty_name = "NYANDARUA WEST"
WHERE subcounty_name = "NYANDARUAWEST";
```

```
UPDATE subcounty_population_density
SET subcounty_name = "NYANDARUA NORTH"
WHERE subcounty_name = "NYANDARUANORTH";
```