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PIZZA

RUNNER

CASE STUDY #2

8 WEEK SQL  
CHALLENGE

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# INTRODUCTION

Did you know that over 115 million kilograms of pizza is consumed daily worldwide??? (Well according to Wikipedia anyway...)

Danny was scrolling through his Instagram feed when something really caught his eye - “80s Retro Styling and Pizza Is The Future!”

Danny was sold on the idea, but he knew that pizza alone was not going to help him get seed funding to expand his new Pizza Empire - so he had one more genius idea to combine with it - he was going to Uberize it - and so Pizza Runner was launched!

Danny started by recruiting “runners” to deliver fresh pizza from Pizza Runner Headquarters (otherwise known as Danny’s house) and also maxed out his credit card to pay freelance developers to build a mobile app to accept orders from customers.





# PROBLEM STATEMENT



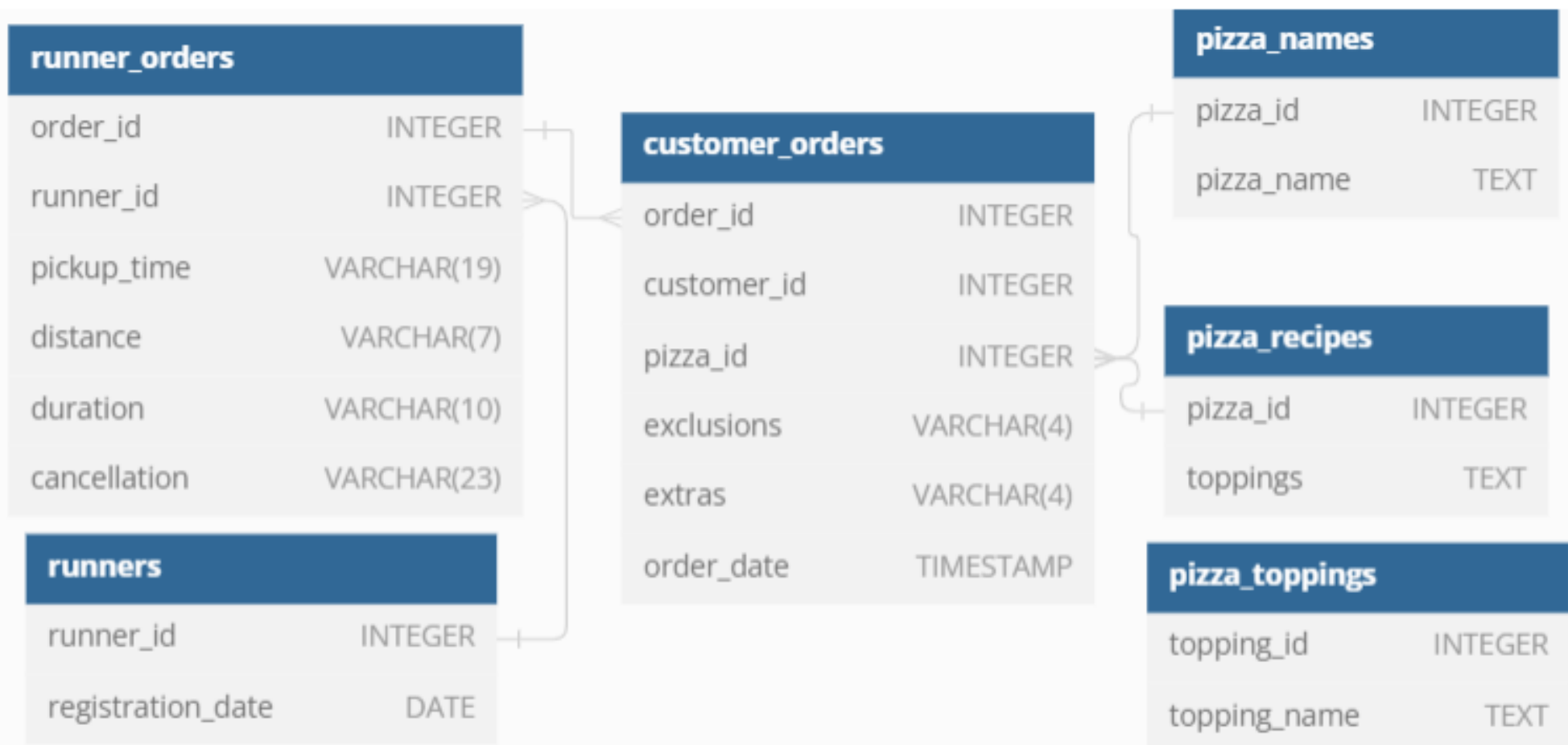
Enhancing Customer Insights for Pizza Runner's Strategic Growth Danny, the mastermind behind Pizza Runner, envisions more than just a pizza empire.

He's delving into customer behaviour, spending patterns, and menu preferences to elevate Pizza Runner's strategic growth.

The data framework, including `runner_orders`, `runners`, `customer_orders`, `pizza_names`, `pizza_recipes`, and `pizza_toppings`, holds the key to unlocking these insights. Danny has shared with you 6 key datasets for this case study: `runner_orders`, `runners`, `customer_orders`, `pizza_names`, `pizza_recipes`, `pizza_toppings`

# ENTITY RELATIONSHIP DIAGRAM

## Entity Relationship Diagram





DATA CLEANING



```

5  -- Data cleaning of customer_orders table
6
7  • create temporary table customer_orders_temp_tbl as
8  select trim(order_id) as order_id,
9         customer_id,
10        pizza_id,
11        case
12            when exclusions = '' then null
13            when exclusions = 'null' then null
14            else exclusions
15        end as exclusions,
16        case
17            when extras = '' then null
18            when extras = 'null' then null
19            else extras
20        end as extras,
21        order_time
22    from customer_orders;
23
24 • select * from customer_orders_temp_tbl;
25

```

-- Creating separate rows for each value in 'exclusion' and 'extras'

```

create table customer_orders_cleaned as
select co.order_id,
       co.customer_id,
       co.pizza_id,
       trim(jc1.exclusions) as exclusions,
       trim(jc2.extras) as extras,
       co.order_time
from customer_orders_temp_tbl co
inner join json_table(trim(replace(json_array(co.exclusions), ',', ',')), '$[*]' columns(exclusions varchar(50) path '$')) jc1
inner join json_table(trim(replace(json_array(co.extras), ',', ',')), '$[*]' columns(extras varchar(50) path '$')) jc2;

```

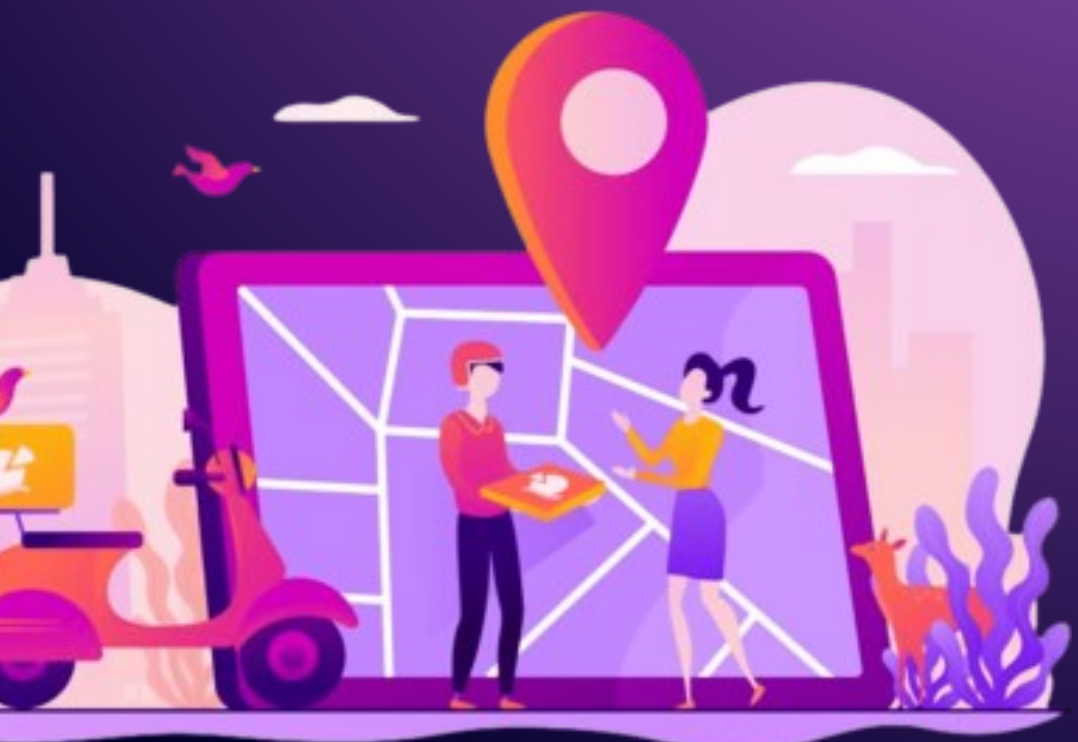
```

40 • select * from customer_orders_cleaned;

```

order_id	customer_id	pizza_id	exclusions	extras	order_time
1	101	1	NULL	NULL	2020-01-01 18:05:02
2	101	1	NULL	NULL	2020-01-01 19:00:52
3	102	1	NULL	NULL	2020-01-02 23:51:23
3	102	2	NULL	NULL	2020-01-02 23:51:23
5	104	1	NULL	1	2020-01-08 21:00:29
6	101	2	NULL	NULL	2020-01-08 21:03:13
7	105	2	NULL	1	2020-01-08 21:20:29
8	102	1	NULL	NULL	2020-01-09 23:54:33
9	103	1	4	1	2020-01-10 11:22:59
9	103	1	4	5	2020-01-10 11:22:59
10	104	1	NULL	NULL	2020-01-11 18:34:49
10	104	1	2	1	2020-01-11 18:34:49
10	104	1	2	4	2020-01-11 18:34:49
10	104	1	6	1	2020-01-11 18:34:49
10	104	1	6	4	2020-01-11 18:34:49
NULL	NULL	NULL	NULL	NULL	NULL

customer\_orders\_cleaned2 x



```
-- cleaning runner_orders
```

```
select * from runner_orders;
```

```
create table runner_orders_cleaned as
```

```
  select order_id,
```

```
         runner_id,
```

```
         case
```

```
           when distance = 'null' then null
```

```
           else cast(regex_replace(distance, '[a-z]', '') as float)
```

```
         end as distance,
```

```
         case
```

```
           when duration = 'null' then null
```

```
           else cast(regex_replace(duration, '[a-z]', '') as float)
```

```
         end as duration,
```

```
         case
```

```
           when cancellation = 'null' then null
```

```
           when cancellation = '' then null
```

```
           else cancellation
```

```
         end as cancellation
```

```
  from runner_orders;
```

```
select * from runner_orders_cleaned;
```

	order_id	runner_id	pickup_time	distance	duration	cancellation
▶	1	1	2020-01-01 18:15:34	20	32	NULL
	2	1	2020-01-01 19:10:54	20	27	NULL
	3	1	2020-01-03 00:12:37	13.4	20	NULL
	4	2	2020-01-04 13:53:03	23.4	40	NULL
	5	3	2020-01-08 21:10:57	10	15	NULL
	6	3	NULL	NULL	NULL	Restaurant Cancellation
	7	2	2020-01-08 21:30:45	25	25	NULL
	8	2	2020-01-10 00:15:02	23.4	15	NULL
	9	2	NULL	NULL	NULL	Customer Cancellation
	10	1	2020-01-11 18:50:20	10	10	NULL



```
-- Data cleaning of pizza_receipe
```

```
select * from pizza_recipes;
```

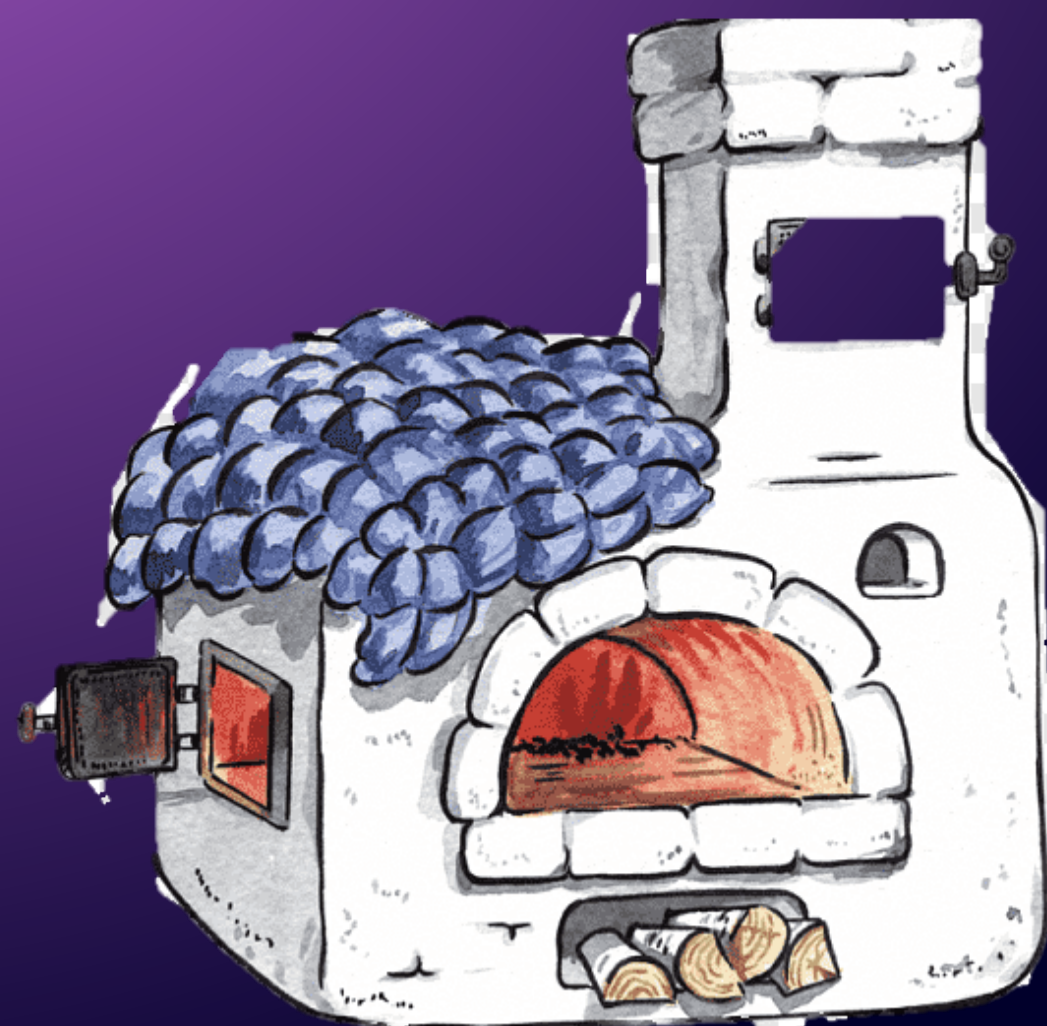
```
-- Concept of using json array
```

```
select * ,  
       json_array(toppings),  
       replace(json_array(toppings),',','"',"''),  
       trim(replace(json_array(toppings),',','"',"''))  
from pizza_recipes;
```

```
-- Actual code for string to rows transformation of 'toppings'
```

```
create table pizza_recipes_cleaned as  
  select pr.pizza_id, jpr.toppings  
  from pizza_recipes pr  
  join json_table(trim(replace(json_array(toppings),',','"',"'')), '$[*]' columns (toppings varchar(50) path '$')) jpr;  
  
select * from pizza_recipes_cleaned;
```

	pizza_id	toppings
▶	1	1
	1	2
	1	3
	1	4
	1	5
	1	6
	1	8
	1	10
	2	4
	2	6
	2	7
	2	9
	2	11
	2	12





## A. PIZZA METRICS

```

1      # A. Pizza Metrics
2      -- How many pizzas were ordered?
3
4      •  SELECT
5          COUNT(pizza_id) AS Total_Pizza_Orderd
6      FROM
7          customer_orders_cleaned;

```

Result Grid	Filter Rows:	Export:	W
Total_Pizza_Orderd			
▶ 15			



```

9      -- How many unique customer orders were made?
10
11     •  SELECT
12         COUNT(DISTINCT order_id) AS unique_customer_orders
13     FROM
14         customer_orders_cleaned;
15

```

Result Grid	Filter Rows:	Export:	Wrap Cell Content:
unique_customer_orders			
▶ 9			

```

16     -- How many successful orders were delivered by each runner?
17
18     •  SELECT
19         runner_id, COUNT(order_id) AS successful_orders
20     FROM
21         runner_orders_cleaned
22     WHERE
23         cancellation IS NULL
24     GROUP BY runner_id;
25

```




Result Grid	Filter Rows:	Export:	Wrap Cell Content:
runner_id	successful_orders		
▶ 1	4		
2	3		
3	1		



```

26      -- How many of each type of pizza was delivered?
27
28  •    SELECT
29          pizza_id, COUNT(order_id) no_of_pizzas
30      FROM
31          customer_orders_cleaned
32      GROUP BY pizza_id;





```

Result Grid			Filter Rows: <input type="text"/>	Export: 	Wrap Cell C
	pizza_id	no_of_pizzas			
▶	1	12			
	2	3			

```

34      -- How many Vegetarian and Meatlovers were ordered by each customer
35
36  •    SELECT
37          customer_id,
38          SUM(CASE
39              WHEN pizza_id = 1 THEN 1
40              ELSE 0
41          END) AS Meatlovers_pizza,
42          SUM(CASE
43              WHEN pizza_id = 2 THEN 1
44              ELSE 0
45          END) AS Vegetarian_pizza
46      FROM
47          customer_orders_cleaned
48      GROUP BY customer_id;





```

Result Grid			Filter Rows: <input type="text"/>	Export: 	Wrap Cell Content: 
	customer_id	Meatlovers_pizza	Vegetarian_pizza		
▶	101	2	1		
	102	2	1		
	104	6	0		
	105	0	1		
	103	2	0		

```

50      -- What was the maximum number of pizzas delivered in a single order?
51
52  •    SELECT
53          customer_id, order_id, COUNT(order_id) AS Pizza_count
54      FROM
55          customer_orders_cleaned
56      GROUP BY customer_id , order_id
57      ORDER BY Pizza_count DESC
58      LIMIT 1;

```

Result Grid			Filter Rows: <input type="text"/>	Export: 	Wrap Cell Content: 	Fetch rows:
	customer_id	order_id	Pizza_count			
▶	104	10	5			

```
-- For each customer, how many delivered pizzas had at least 1 change and how many had no changes?

select customer_id,
       sum(case
            when (exclusions is not null
                  or extras is not null)
            then 1
            else 0
            end) as Change_in_pizza,
       sum(case
            when (exclusions is null
                  and extras is null)
            then 1
            else 0
            end) as No_change_in_pizza
from customer_orders_cleaned co inner join runner_orders_cleaned ro on co.order_id = ro.order_id
where cancellation is null
group by customer_id
order by customer_id;
```

	customer_id	Change_in_pizza	No_change_in_pizza
▶	101	0	2
	102	0	3
	104	5	1
	105	1	0

```
-- How many pizzas were delivered that had both exclusions and extras?
```

```
select * from customer_orders_cleaned;
select * from runner_orders_cleaned;
```

```
SELECT
    pizza_id, COUNT(pizza_id) AS Delivered_pizzas
FROM
    customer_orders_cleaned co
    JOIN
    runner_orders_cleaned ro ON co.order_id = ro.order_id
WHERE
    exclusions IS NOT NULL
    AND extras IS NOT NULL
    AND cancellation IS NULL
GROUP BY pizza_id;
```

	pizza_id	Delivered_pizzas
▶	1	4



```
97 -- What was the total volume of pizzas ordered for each hour of the day?
98
99 • SELECT
100     HOUR(order_time) AS Hour_of_day,
101     COUNT(order_id) AS volume_of_pizza
102 FROM
103     customer_orders_cleaned
104 GROUP BY Hour_of_day;
```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	Hour_of_day	volume_of_pizza
▶	18	6
	19	1
	23	3
	21	3
	11	2

```
106 -- What was the volume of orders for each day of the week?
107
108 • SELECT
109     DAYNAME(order_time) AS Day_of_week,
110     COUNT(order_id) AS volume_of_pizza
111 FROM
112     customer_orders_cleaned
113 GROUP BY Day_of_week;
```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	Day_of_week	volume_of_pizza
▶	Wednesday	5
	Thursday	3
	Friday	2
	Saturday	5



# B. RUNNER & CUSTOMER EXPERIENCE



```
1 # Runner and Customer Experience
2 -- How many runners signed up for each 1 week period? (i.e. week starts 2021-01-01)
3
4 • SELECT
5     WEEK(registration_date) AS week_of_registration,
6     COUNT(runner_id) AS number_of_runner
7 FROM
8     runners
9 GROUP BY week_of_registration;
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	week_of_registration	number_of_runner			
▶	0	1			
	1	2			
	2	1			



```
11 -- What was the average time in minutes it took for each runner to arrive at the Pizza Runner HQ to pickup the order?
12
13 • SELECT
14     ro.runner_id,
15     ROUND(AVG(TIMESTAMPDIFF(MINUTE, co.order_time, ro.pickup_time)),2) AS Avg_arrive_time_to_HQ
16 FROM
17     customer_orders_cleaned co
18     JOIN
19     runner_orders_cleaned ro ON co.order_id = ro.order_id
20 GROUP BY ro.runner_id;
```

Result Grid			Filter Rows:	Export:	Wrap Cell Content:
	runner_id	Avg_arrive_time_to_HQ			
▶	1	15.22			
	3	10.00			
	2	15.00			

```

22 -- Is there any relationship between the number of pizzas and how long the order takes to prepare?
23
24 • SET sql_mode=(SELECT REPLACE(@@sql_mode,'ONLY_FULL_GROUP_BY',''));
25
26 • WITH cte AS (
27     SELECT count(co.pizza_id) AS pizza_count,
28           co.order_id,
29           round(AVG(TIMESTAMPDIFF(MINUTE, co.order_time, ro.pickup_time)),2) AS order_prep_time
30     FROM customer_orders_cleaned co
31        JOIN
32     runner_orders_cleaned ro
33        ON co.order_id = ro.order_id
34    WHERE ro.pickup_time IS NOT NULL
35    GROUP BY co.order_id)
36 SELECT pizza_count,order_prep_time
37 FROM cte
38 GROUP BY pizza_count;

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

	pizza_count	order_prep_time
▶	1	10.00
	2	21.00
	5	15.00

#PEARSON CORRELATION FOR FINDING REALTION BETWEEN 'PIZZA\_COUNT' AND 'PREPARATION TIME'

```

create temporary table pearson
select count(co.pizza_id) as pizza_count,
co.order_id, avg(timestampdiff(minute,co.order_time,ro.pickup_time)) as order_prep_time
from customer_orders_cleaned co join runner_orders_cleaned ro on co.order_id = ro.order_id
where ro.pickup_time is not null
group by co.order_id;

```

```

49 #create average and standard rows to calculate pearson r value
50
51 • SELECT
52     @ax:=AVG(order_prep_time),
53     @ay:=AVG(pizza_count),
54     @div:=(STDDEV_SAMP(order_prep_time) * STDDEV_SAMP(pizza_count))
55 FROM
56     pearson;
57
58 # calculate pearson r value
59
60 • SELECT
61     SUM((order_prep_time - @ax) * (pizza_count - @ay)) / ((COUNT(order_prep_time) - 1) * @div) AS pearson_r
62 FROM
63     pearson;
64
65 -- pearson r value is '0.277'. This proves that there is a relation between pizza count and preparation time

```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: |

pearson_r
0.27745303737757626



```

76      -- What was the average distance travelled for each customer?
77
78  •   SELECT
79      co.customer_id, round(AVG(ro.distance),2) AS avg_distance
80  FROM
81      customer_orders_cleaned co
82      JOIN
83      runner_orders_cleaned ro ON co.order_id = ro.order_id
84  GROUP BY co.customer_id;

```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	customer_id	avg_distance
▶	101	20
	102	16.73
	104	10
	105	25
	103	NULL

```

86      -- What was the difference between the longest and shortest delivery times for all orders?
87
88  •   SELECT
89      MAX(duration) - MIN(duration) AS difference
90  FROM
91      runner_orders_cleaned
92  WHERE
93      duration IS NOT NULL;

```

Result Grid

Filter Rows:

Export:




Wrap Cell Content:

	difference
▶	30

```

95 -- What was the average speed for each runner for each delivery and do you notice any trend for these values
96 • SELECT
97     co.customer_id,
98     ro.runner_id,
99     ro.order_id,
100     ROUND(AVG((ro.distance*1000) / (ro.duration *60)),2) AS avg_speed_M_per_S
101 FROM
102     runner_orders_cleaned ro
103     JOIN
104     customer_orders_cleaned co
105 WHERE
106     distance IS NOT NULL
107 GROUP BY customer_id,ro.runner_id , ro.order_id
108 order by customer_id asc,ro.runner_id asc, ro.order_id asc;
109
110 -- There is no trend for these values

```

Result Grid |  Filter Rows:  | Export:  | Wrap Cell Content: 

	customer_id	runner_id	order_id	avg_speed_M_per_S
▶	101	1	1	10.42
	101	1	2	12.35
	101	1	3	11.17
	101	1	10	16.67
	101	2	4	9.75
	101	2	7	16.67

```

112 -- What is the successful delivery percentage for each runner?
113
114 • SELECT
115     runner_id,
116     (SUM(CASE
117         WHEN cancellation IS NULL THEN 1
118         ELSE 0
119     END) * 100 / COUNT(runner_id)) AS Percentage
120 FROM
121     runner_orders_cleaned
122 GROUP BY runner_id;

```

Result Grid |  Filter Rows:  | Export:  | Wrap Cell Content: 

	runner_id	Percentage
▶	1	100.0000
	2	75.0000
	3	50.0000

# C. INGREDIENT OPTIMISATION



```

4      #C. Ingredient Optimisation
5
6      -- What are the standard ingredients for each pizza?
7
8      • SELECT pr.pizza_id, pn.pizza_name,
9             GROUP_CONCAT(pt.topping_name, ', ') AS ingredients
10     FROM pizza_recipes_cleaned pr
11     JOIN pizza_names pn ON pr.pizza_id = pn.pizza_id
12     JOIN pizza_toppings pt on pr.toppings = pt.topping_id
13     GROUP BY pr.pizza_id,pn.pizza_name;

```

Result Grid			Filter Rows:		Export:		Wrap Cell Content:	
	pizza_id	pizza_name	ingredients					
▶	1	Meatlovers	Bacon, ,BBQ Sauce, ,Beef, ,Cheese, ,Chicken, ,Mushrooms, ,Pepperoni, ,Salami,					
	2	Vegetarian	Cheese, ,Mushrooms, ,Onions, ,Peppers, ,Tomatoes, ,Tomato Sauce,					

```

15      -- What was the most commonly added extra?
16
17      • SELECT pt.topping_name,
18             COUNT(co.extras) AS times_added
19     FROM customer_orders_cleaned co
20     LEFT JOIN pizza_toppings pt ON co.extras = pt.topping_id
21     WHERE topping_name IS NOT NULL
22     GROUP BY topping_name
23     LIMIT 1;
24

```

Result Grid			Filter Rows:		Export:		Wrap Cell Content:	
	topping_name	times_added						
▶	Bacon	5						

```

25  -- What was the most common exclusion?
26
27  •  SELECT pt.topping_name,
28         COUNT(exclusions) AS exclusions_count
29  FROM customer_orders_cleaned co
30  JOIN pizza_toppings pt ON co.exclusions = pt.topping_id
31  GROUP BY pt.topping_name;
32

```

Result Grid |  Filter Rows:  | Export:  | Wrap Cell Content:

	topping_name	times_added
▶	Bacon	5



```

/*
-- Generate an order item for each record in the customers_orders table in the format of one of the following:
Meat Lovers
Meat Lovers - Exclude Beef
Meat Lovers - Extra Bacon
Meat Lovers - Exclude Cheese, Bacon - Extra Mushroom, Peppers
*/

```

```

with order_details as (
    SELECT
        co.order_id,
        co.customer_id,
        pn.pizza_id,
        pn.pizza_name,
        co.exclusions,
        co.extras
    FROM customer_orders_cleaned co
    JOIN pizza_names pn
    ON co.pizza_id = pn.pizza_id
),

```

```

toppings as (
    SELECT topping_id,
           topping_name
    FROM pizza_toppings
),
formatted_exclusions as (
    SELECT od.order_id,
           GROUP_CONCAT(DISTINCT t.topping_name ORDER BY t.topping_name SEPARATOR ', ') AS exclusions
    FROM order_details od
    LEFT JOIN toppings t ON FIND_IN_SET(t.topping_id, od.exclusions)
    GROUP BY od.order_id
),
formatted_extras as (
    SELECT od.order_id,
           GROUP_CONCAT(DISTINCT t.topping_name ORDER BY t.topping_name SEPARATOR ', ') AS extras
    FROM order_details od
    LEFT JOIN toppings t ON FIND_IN_SET(t.topping_id, od.extras)
    GROUP BY od.order_id
)

```



```

SELECT od.order_id,od.customer_id,od.pizza_id,
       CONCAT_WS(' ', od.pizza_name,
                 CASE
                   WHEN fe.exclusions is not null and fe.exclusions != ''
                   THEN CONCAT('- Exclude ', fe.exclusions)
                   ELSE ''
                 END,
                 CASE
                   WHEN fx.extras is not null and fx.extras != ''
                   THEN CONCAT('- Extra ', fx.extras)
                   ELSE ''
                 END) AS order_description
FROM order_details od
left JOIN formatted_exclusions fe ON od.order_id = fe.order_id
left JOIN formatted_extras fx ON od.order_id = fx.order_id;

```

	order_id	customer_id	pizza_id	order_description
▶	1	101	1	Meatlovers
	2	101	1	Meatlovers
	3	102	1	Meatlovers
	3	102	2	Vegetarian
	5	104	1	Meatlovers - Extra Bacon
	6	101	2	Vegetarian
	7	105	2	Vegetarian - Extra Bacon
	8	102	1	Meatlovers
	9	103	1	Meatlovers - Exclde Cheese - Extra Bacon, Chicken
	9	103	1	Meatlovers - Exclde Cheese - Extra Bacon, Chicken
	10	104	1	Meatlovers - Exclde BBQ Sauce, Mushrooms - Extra Bacon, Cheese
	10	104	1	Meatlovers - Exclde BBQ Sauce, Mushrooms - Extra Bacon, Cheese
	10	104	1	Meatlovers - Exclde BBQ Sauce, Mushrooms - Extra Bacon, Cheese
	10	104	1	Meatlovers - Exclde BBQ Sauce, Mushrooms - Extra Bacon, Cheese
	10	104	1	Meatlovers - Exclde BBQ Sauce, Mushrooms - Extra Bacon, Cheese

-- What is the total quantity of each ingredient used in all delivered pizzas sorted by most frequent first?

```
WITH frequent_ingredients AS (  
    SELECT co.order_id,  
           pt.topping_name as topping_name,  
           CASE  
               WHEN pt.topping_id IN ( SELECT extras  
                                       FROM customer_orders_cleaned) THEN 2  
               WHEN pt.topping_id IN ( SELECT exclusions  
                                       FROM customer_orders_cleaned ) THEN 0  
               ELSE 1  
           END AS times_used  
    FROM customer_orders_cleaned co  
    LEFT JOIN pizza_recipes_cleaned pr USING(pizza_id)  
    JOIN pizza_toppings pt on pt.topping_id = pr.toppings)  
  
SELECT topping_name,  
       SUM(times_used) as times_used  
FROM frequent_ingredients  
GROUP BY topping_name  
ORDER BY times_used DESC;
```



	topping_name	times_used
▶	Cheese	30
	Chicken	24
	Bacon	24
	Salami	12
	Pepperoni	12
	Beef	12
	Tomato Sauce	3
	Tomatoes	3
	Peppers	3
	Onions	3
	Mushrooms	0
	BBQ Sauce	0

## D. PRICING & RATINGS



```

3      # 1. If a Meat Lovers pizza costs $12 and Vegetarian costs $10 and there were no charges for changes:
4      -- - how much money has Pizza Runner made so far if there are no delivery fees?
5  • SELECT SUM(CASE
6              WHEN co.pizza_id = 1 THEN 12
7              ELSE 10
8          END) AS Earned_money
9  FROM customer_orders_cleaned co LEFT JOIN
10         runner_orders_cleaned ro USING (order_id)
11  WHERE ro.cancellation IS NULL;

```

Result Grid |  Filter Rows:  | Export:  | Wrap Cell Content: 

	Earned_money
▶	140

```

13      # 2. What if there was an additional $1 charge for any pizza extras
14      -- Add cheese is $1 extra
15
16  • SELECT SUM(CASE
17              WHEN co.pizza_id = 1 THEN 12
18              ELSE 10
19          END) +
20  SUM(CASE
21              WHEN co.extras = 4 THEN 2
22              WHEN co.extras IS NULL THEN 0
23              ELSE 1
24          END) AS updated_money
25  FROM customer_orders_cleaned co LEFT JOIN
26         runner_orders_cleaned ro USING (order_id)
27  WHERE ro.cancellation IS NULL;

```

Result Grid |  Filter Rows:  | Export:  | Wrap Cell Content: 

	updated_money
▶	148

# 3. The Pizza Runner team now wants to add an additional ratings system that allows customers to rate their runner,  
-- how would you design an additional table for this new dataset -  
-- generate a schema for this new table and insert your own data for ratings for each successful customer order between 1 to 5.

```
CREATE TABLE ratings (  
  order_id INT,  
  rating INT  
);  
  
INSERT INTO ratings (order_id, rating)  
VALUES (1,3),  
      (2,5),  
      (3,3),  
      (4,1),  
      (5,5),  
      (7,3),  
      (8,4),  
      (9,2),  
      (10,4);  
  
SELECT * FROM ratings;
```

	order_id	rating
▶	1	3
	2	5
	3	3
	4	1
	5	5
	7	3
	8	4
	9	2
	10	4



```
# 4. Using your newly generated table - can you join all of the information together to
-- form a table which has the following information for successful deliveries?
-- customer_id -- order_id
-- runner_id -- rating
-- order_time -- pickup_time
-- Time between order and pickup -- Delivery duration
-- Average speed -- Total number of pizzas
```

```
SELECT co.customer_id,
       co.order_id,
       ro.runner_id,
       rt.rating,
       co.order_time,
       ro.pickup_time,
       TIMESTAMPDIFF(MINUTE,co.order_time, ro.pickup_time) AS Time_betn_Order_and_Pickup,
       ro.duration,
       ROUND(AVG(ro.distance/ro.duration * 60),1) AS Average_speed,
       COUNT(co.order_id) AS Pizza_count
FROM customer_orders_cleaned co
LEFT JOIN runner_orders_cleaned ro USING (order_id)
JOIN ratings rt USING (order_id)
GROUP BY co.customer_id,
         co.order_id,
         ro.runner_id,
         co.order_time,
         ro.pickup_time,
         ro.duration;
```

	customer_id	order_id	runner_id	rating	order_time	pickup_time	Time_betn_Order_and_Pickup	duration	Average_speed	Pizza_count
▶	101	1	1	3	2020-01-01 18:05:02	2020-01-01 18:15:34	10	32	37.5	1
	101	2	1	5	2020-01-01 19:00:52	2020-01-01 19:10:54	10	27	44.4	1
	102	3	1	3	2020-01-02 23:51:23	2020-01-03 00:12:37	21	20	40.2	2
	104	5	3	5	2020-01-08 21:00:29	2020-01-08 21:10:57	10	15	40	1
	105	7	2	3	2020-01-08 21:20:29	2020-01-08 21:30:45	10	25	60	1
	102	8	2	4	2020-01-09 23:54:33	2020-01-10 00:15:02	20	15	93.6	1
	103	9	2	2	2020-01-10 11:22:59	NULL	NULL	NULL	NULL	2
	104	10	1	4	2020-01-11 18:34:49	2020-01-11 18:50:20	15	10	60	5



```

80 # 5. If a Meat Lovers pizza was $12 and Vegetarian $10 fixed prices with no cost for
81 -- extras and each runner is paid $0.30 per kilometre traveled -
82 -- how much money does Pizza Runner have left over after these deliveries?
83
84 ● ⊖ SELECT SUM(CASE
85           WHEN co.pizza_id = 1 THEN 12
86           ELSE 10
87           END) AS Revenue,
88       ROUND(SUM(ro.distance) * 0.3, 2) AS runner_paid,
89       ⊖ ROUND(SUM(CASE
90           WHEN co.pizza_id = 1 THEN 12
91           ELSE 10
92           END) - (SUM(ro.distance) * 0.3), 2) AS Money_left
93 FROM customer_orders_cleaned co JOIN
94       runner_orders_cleaned ro USING (order_id)
95 WHERE ro.cancellation IS NULL;
96

```

Result Grid |   Filter Rows:  | Export:  | Wrap Cell Content: 

	Revenue	runner_paid	Money_left
	140	52.56	87.44

**THANK YOU !**