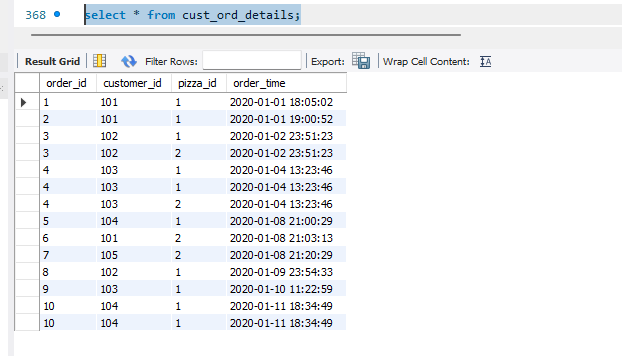
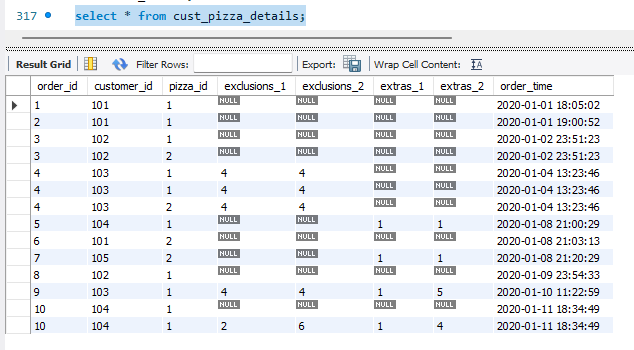
Atfirst I have done some cleaning of the data and divided the table into some parts

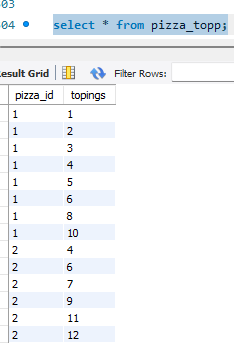
Here I have divided the table customer\_orders to cust\_ord\_details



Cust\_Pizza\_Details table

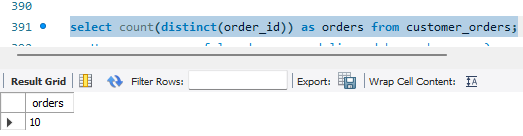


Pizza\_toppings table to Pizza\_topp

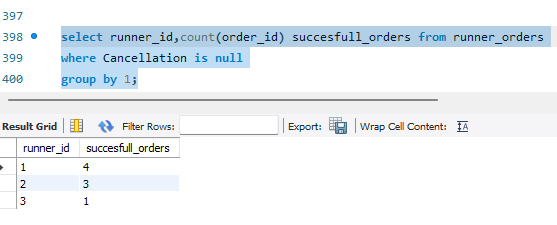


**Solution:**

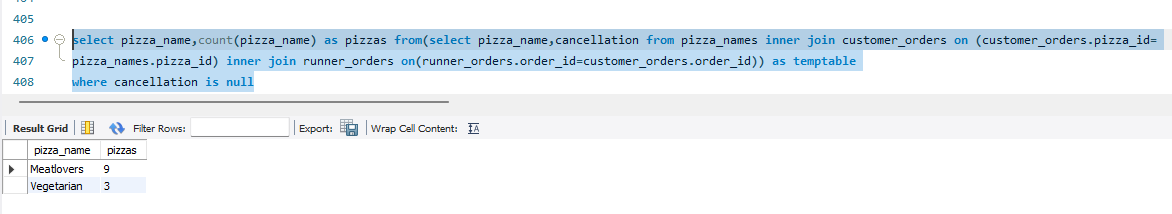
**How many pizzas were ordered?**

****

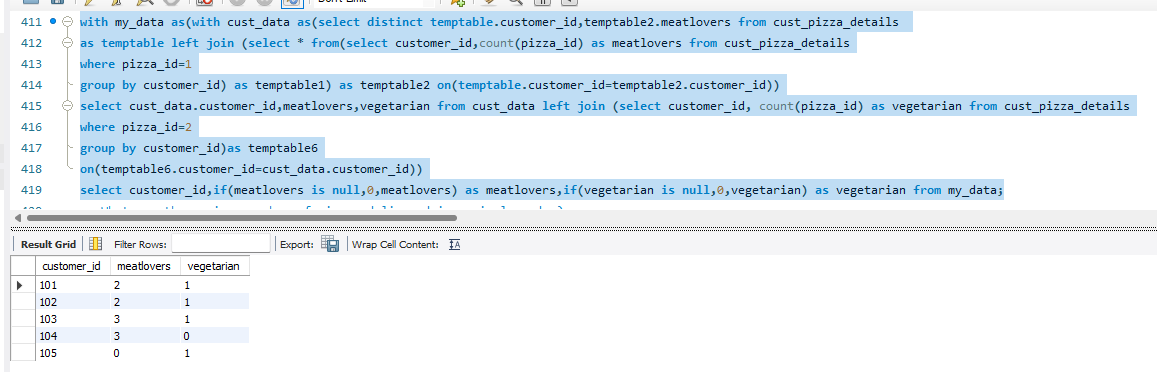
**How many successful orders were delivered by each runner?**

****

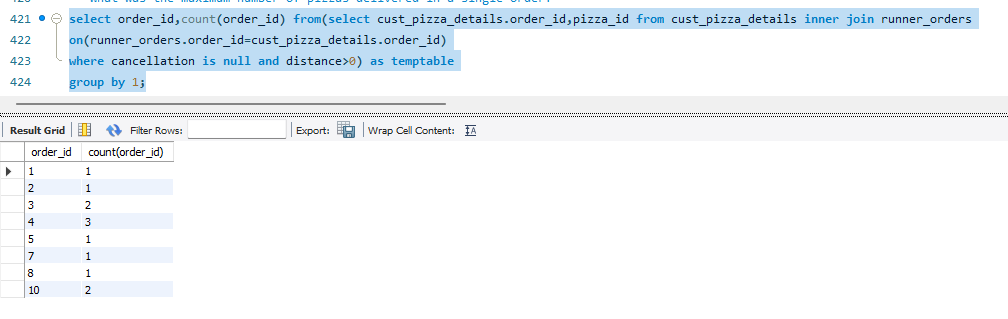
**How many of each type of pizza was delivered?**

****

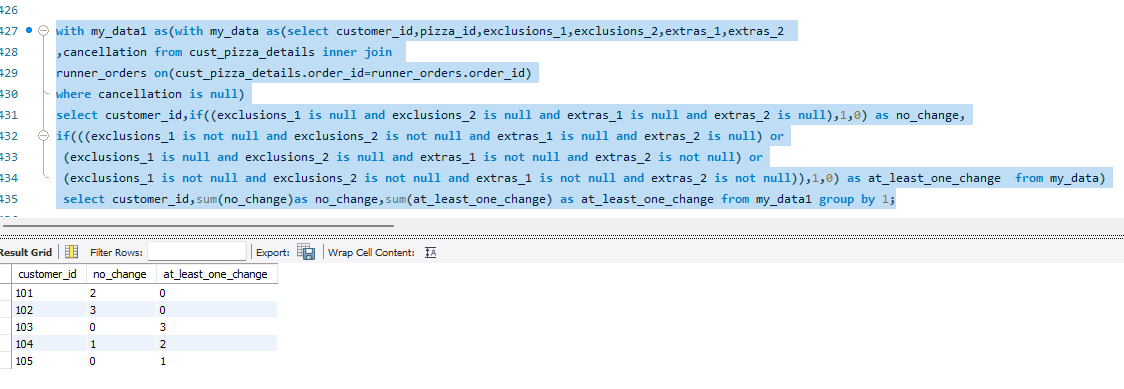
**How many Vegetarian and Meatlovers were ordered by each customer?**

****

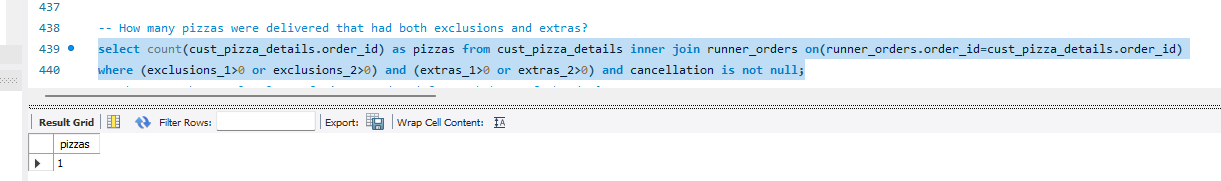
**What was the maximum number of pizzas delivered in a single order?**

****

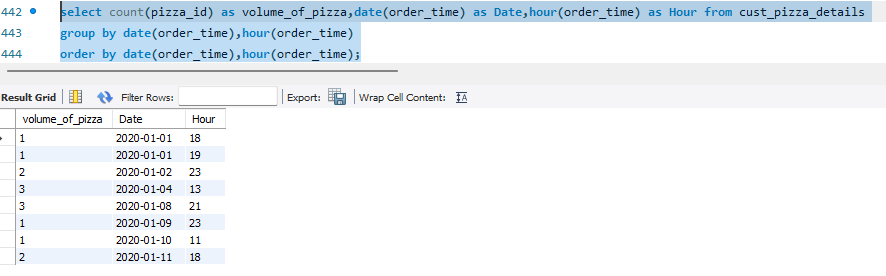
**For each customer, how many delivered pizzas had at least 1 change and how many had no changes?**

****

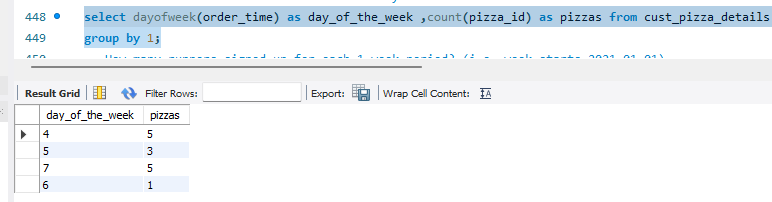
**How many pizzas were delivered that had both exclusions and extras?**

****

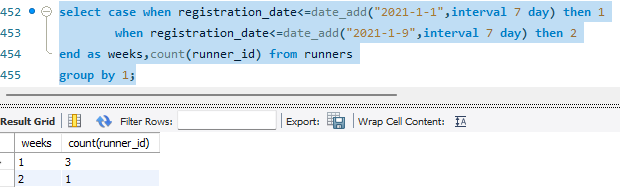
**What was the total volume of pizzas ordered for each hour of the day?**

****

**What was the volume of orders for each day of the week?**

****

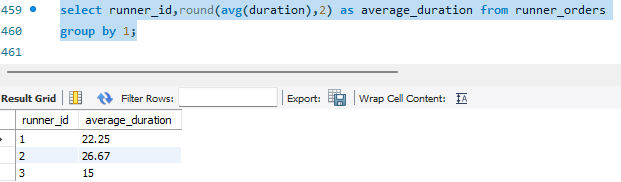
**How many runners signed up for each 1 week period? (i.e. week starts 2021-01-01)**

****

**What was the average time in minutes it took for each runner**

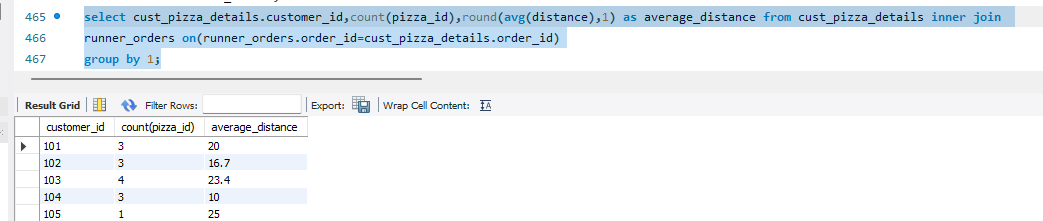
**to arrive at the Pizza Runner HQ to**

**pickup the order?**

****

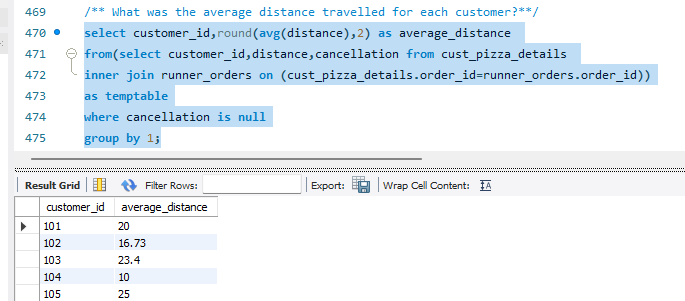
**Is there any relationship between**

**the number of pizzas and how long the order takes to prepare?**

****

**Number of pizzas increases and time also increases but for the customer 104 and 102 may live near to the store so runners had travelled less distance to take place the order.**

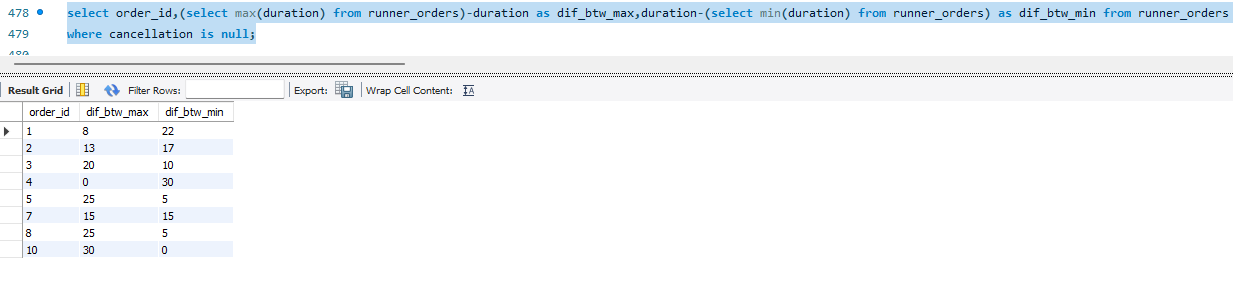
**What was the average distance travelled for each customer?**

****

**104 is the nearest customer and 103 is the longest customer.**

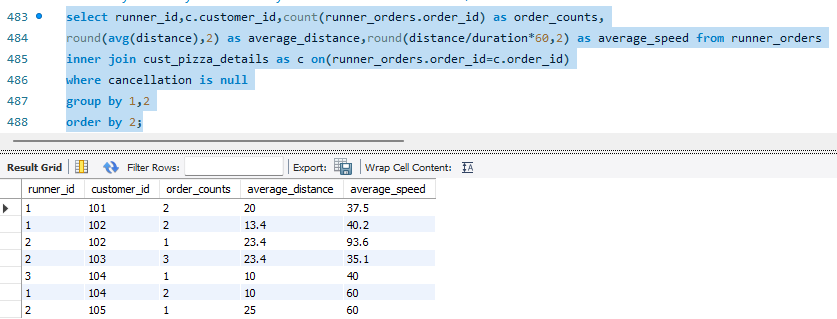
**What was the difference between the longest and shortest delivery**

**times for all orders?**

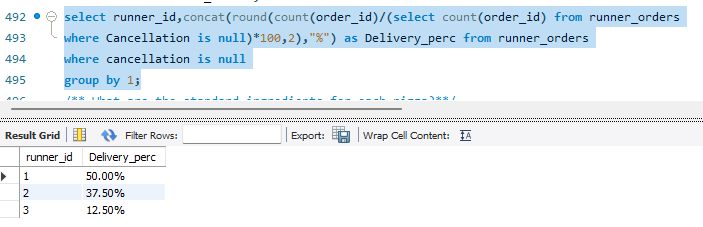
****

**What was the average speed for each runner for each**

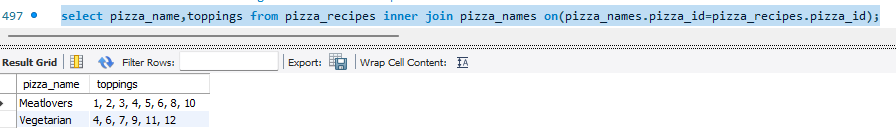
**delivery and do you notice any trend for these values?**

****

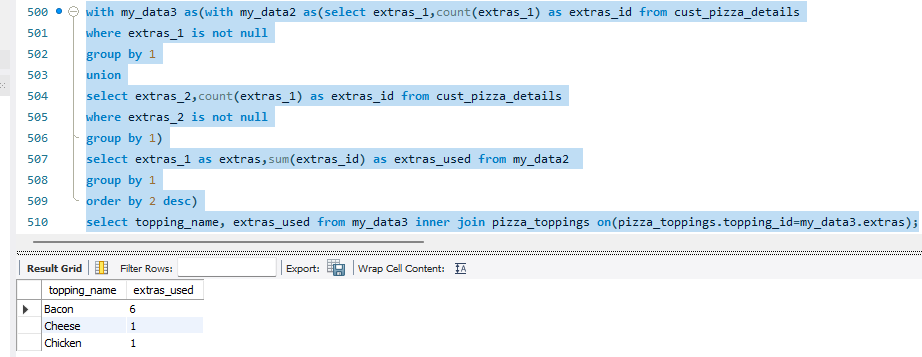
**What is the successful delivery percentage for each runner?**

****

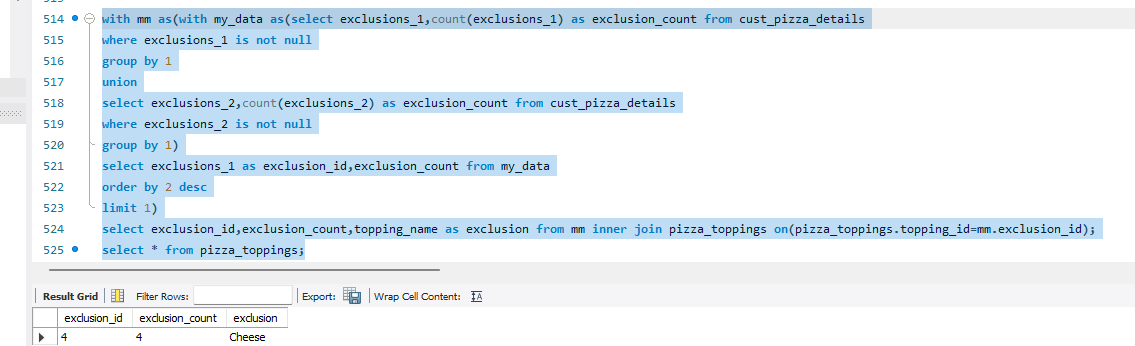
**What are the standard ingredients for each pizza?**

****

**What was the most commonly added extra?**

****

**What was the most common exclusion?**

**  
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**

**Code: select order\_id,pizza\_id,exclusions\_1,exclusions\_2,extras\_1,extras\_2,**

**if (exclusions\_1 is null and extras\_1 is null and exclusions\_2 is null and extras\_2 is null,**

**(select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),if**

**(exclusions\_1 is not null and exclusions\_2 is null and extras\_1 is null and extras\_2 is null,concat(**

**(select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),"-","Exclude"," ",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_1)),**

**if(exclusions\_1 is null and exclusions\_2 is not null and extras\_1 is null and extras\_2 is null,concat**

**((select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),"-","Exclude",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_2)),**

**if(exclusions\_1 is not null and exclusions\_2 is not null and extras\_1 is null and extras\_2 is null,**

**concat((select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),"-","Exclude"," ",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_1),",",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_2)),**

**if(exclusions\_1 is null and exclusions\_2 is null and extras\_1 is not null and extras\_2 is not null,**

**concat((select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),"-","Extra"," ",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_1),",",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_2)),**

**if(exclusions\_1 is null and exclusions\_2 is null and extras\_1 is not null and extras\_2 is null,**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_1),**

**if(exclusions\_1 is not null and exclusions\_2 is not null and extras\_1 is not null and extras\_2 is not null,**

**concat((select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),"-","Exclude"," ",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_1),",",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_2),"Extras","-",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_1),",",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_2)),if(exclusions\_1 is not null and exclusions\_2 is**

**null and extras\_1 is not null and extras\_2 is not null,concat((select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),"-","Exclude"," ",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_1)," ","Extras"," ",(select topping\_name from pizza\_toppings where topping\_id=extras\_1),",",**

**(select topping\_name from pizza\_toppings where topping\_id=extras\_2)),**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_2))))))))) as order\_item**

**from cust\_pizza\_details;**

**Code:**

**select pizza\_id,ingredient\_1,ingredient\_2,exclusions\_1,exclusions\_2,extras\_1,extras\_2,**

**if(ingredient\_1 is null and ingredient\_2 is null and exclusions\_1 is null and exclusions\_2 is null and extras\_1 is null and extras\_2 is null,(select**

**pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),**

**concat((select pizza\_name from pizza\_names where pizza\_id=cust\_pizza\_details.pizza\_id),":",(if(ingredient\_1 is not null and ingredient\_2 is not null and ingredient\_1=ingredient\_2,concat("2X"," ",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.pizza\_id)),"")),**

**if(exclusions\_1 is null and exclusions\_2 is null and extras\_1 is null and extras\_2 is null,"",if(exclusions\_1 is not null and exclusions\_2 is null and extras\_1 is null and extras\_2 is null,concat(",",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_1)),if(exclusions\_1 is null and exclusions\_2 is not null and extras\_1 is null and extras\_2 is null,concat(",",(select topping\_name from pizza\_toppings**

**where topping\_id=cust\_pizza\_details.exclusions\_2)),if(exclusions\_1**

**is null and exclusions\_2 is null and extras\_1 is not null and extras\_2 is null,**

**concat(",",(select topping\_name from pizza\_toppings where topping\_id=**

**cust\_pizza\_details.extras\_1)),if(exclusions\_1 is null and exclusions\_2**

**is null and extras\_1 is null and extras\_2 is not null,concat(",",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_2)),if(exclusions\_1 is not null and exclusions\_2 is not null and extras\_1 is not null and extras\_2 is not null and(exclusions\_1=exclusions\_2 or extras\_2=extras\_2),concat(",","2X",(select topping\_name**

**from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_1),",",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.exclusions\_2),",",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_1),",",(select topping\_name from pizza\_toppings**

**where topping\_id=cust\_pizza\_details.extras\_2)),**

**if(exclusions\_1 is null and exclusions\_2 is null and extras\_1 is not null**

**and extras\_2 is not null,concat(",",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_1),",",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_2)),if(exclusions\_1 is not null and exclusions\_2 is null and extras\_1 is not null and extras\_2 is not null,concat(",",(select topping\_name from pizza\_toppings where topping\_id=**

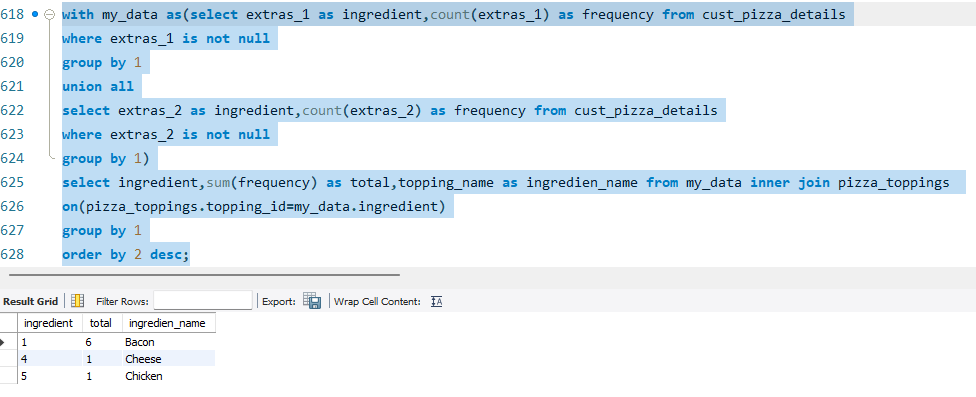
**cust\_pizza\_details.exclusions\_1),",",**

**(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_1),",",(select topping\_name from pizza\_toppings where topping\_id=cust\_pizza\_details.extras\_2)),if(exclusions\_1 is not null and exclusions\_2 is not null and extras\_1 is null and extras\_2 is null,concat(",",(select topping\_name from pizza\_toppings where topping\_id=**

**cust\_pizza\_details.exclusions\_1),",",(select topping\_name from pizza\_toppings where topping\_id=**

**cust\_pizza\_details.exclusions\_2)),"1"))))))))))) as ingredeint\_list from cust\_pizza\_details;**

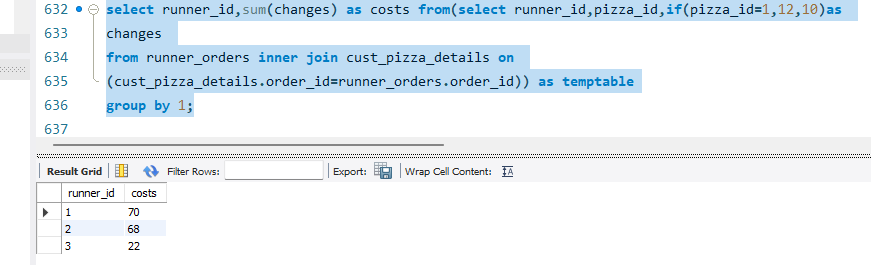
**What is the total quantity of each ingredient used in all delivered pizzas sorted by most frequent first?**

****

**If a Meat Lovers pizza costs $12 and Vegetarian costs $10**

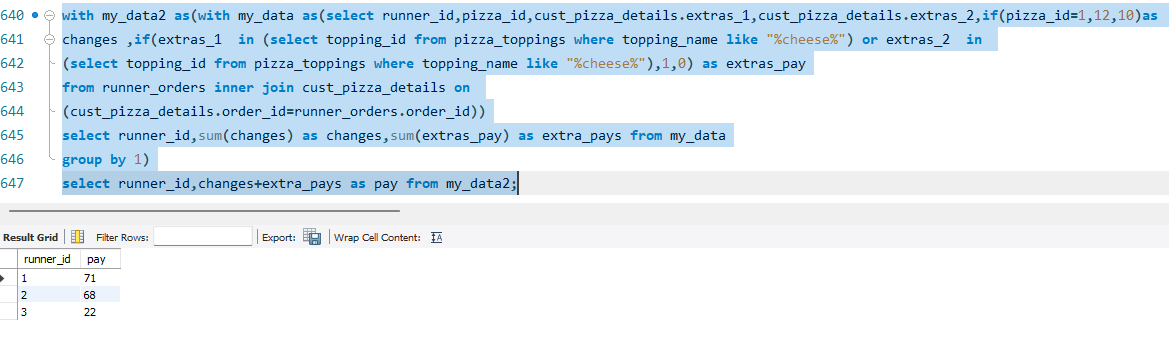
**and there were no charges for changes - how much money has Pizza Runner made so far if there are**

**no delivery fees?**

****

**What if there was an additional $1 charge for any pizza extras?**

**Add cheese is $1 extra?**

****

**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.**

**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**

**Code: create table pizza\_ratings as(with data1 as(with mm as(with my\_data3 as(with my\_data2 as(with my\_data1 as(with my\_data as(select customer\_id,order\_id,pizza\_id from cust\_pizza\_details**

**where order\_id in(select order\_id from runner\_orders**

**where cancellation is null))**

**select customer\_id,pizza\_id,my\_data.order\_id,runner\_id,duration,dense\_rank() over(partition by customer\_id order by duration asc) as ranks from my\_data inner join runner\_orders where(my\_data.order\_id=runner\_orders.order\_id)**

**order by customer\_id,duration desc)**

**select customer\_id,pizza\_id,order\_id,runner\_id,duration,ranks,if (ranks=1,5,if(ranks=2,4,if(ranks=3,3,""))) as ratings from my\_data1)**

**select distinct my\_data2.customer\_id,my\_data2.pizza\_id,my\_data2.order\_id,runner\_id,duration,ratings,order\_time from my\_data2 inner join cust\_pizza\_details where my\_data2.order\_id=cust\_pizza\_details.order\_id and my\_data2.customer\_id=cust\_pizza\_details.customer\_id and my\_data2.pizza\_id=cust\_pizza\_details.pizza\_id**

**order by 1)**

**select customer\_id,pizza\_id,my\_data3.order\_id,my\_data3.runner\_id,my\_data3.duration,ratings,order\_time,pickup\_time from my\_data3 inner join runner\_orders where runner\_orders.order\_id=my\_data3.order\_id and runner\_orders.runner\_id=my\_data3.runner\_id)**

**select customer\_id,mm.pizza\_id,mm.order\_id,mm.runner\_id,mm.duration,ratings,order\_time,mm.pickup\_time,abs(minute(mm.pickup\_time)-minute(mm.order\_time)) as time\_diff,distance from mm inner join runner\_orders on(runner\_orders.order\_id=mm.order\_id))**

**select customer\_id,order\_id,count(pizza\_id) as pizzas,runner\_id,duration,ratings,order\_time,pickup\_time,time\_diff,round(distance/duration\*60,2) as average\_speed from data1**

**group by 1,2,4);**

**Thank You!**