# Part 2: Questions

## 1. DrSmile has decided to launch a monthly magazine…

Given that I am correct in my interpretation of the task and assuming the following:

- There are 0 customers at the start of the campaign - as of 2020-01-01 00:00:00;
- The sign up date does not matter, and customers still bring same revenue of €3 monthly regardless of their sign up date) – generate same amounts of revenue, i.e. if 10 customers have been signed in Jan, then they generate €30 of revenue, €3 each.
- Churn occurs only in between months, example:
  with 0 customers from the start, 100 customers were signed in Jan, then 100-100*0.17 = 83 customers we have at the start of Feb (from original pdf: *the churn rate after 1 month is 17%*), then we sign another 100 customers in Feb, then with 183-183*0.162 = 153 customers we enter Mar (*the churn rate after 2 months will be 16.2%*) – churn is applied to the cohort signed month before last plus last month signed customers. If those speculations are accurate, then

**6651 customers are needed monthly to reach the goal of €1000081.23 of cumulative revenue by 2021-12-31.**

Please, see drsmile_cumulative_revenue.py

## 2. You have to explain the difference …

Ok, my dear niece, <niece`s name>,

Imagine that there huge and very important party takes place tonight and your mom wants to cook something really fancy and very special (there will be very important guests and they need to be treated properly). The problem is that dishes you mom wants to cook for a party are very complicated and finicky and need a constant attention and supervision to make sure nothing gets screwed, so somebody has to be constantly in the kitchen watching the cooking process, but, what a bummer!, a last episode of Breaking Bad is being broadcasted at 2 pm, exactly several hours before the party when the food needs to be prepared. Your mom loves that show and she won`t miss the last episode for anything in the world. Problem is she can`t cook and watch the show at the same time, it`s not fun.

You decide the following: you help your mom: she is going to watch the show in the living room and you can watch it with her (let`s pretend it`s not NC-17 – Adults Only rating), but from time to time you will have to run to the kitchen to collect some information about cooking process: humidity levels in the kitchen, temperature in the kitchen, oven, inner temperature of the food, color and etc, and to come back to your mom to tell her all information, so mom knows when to take the dish out of the oven so everything is cooked to perfection.

### View

So your mom is watching the show and there is a Chilean Seabass on the grill and some corn in a slow-cooker, you just need to flip fish few times, but you have to be careful to make to tell your mom the exact temperature of the fish so mom can tell you when to flip it. At some point mom sends you to the kitchen to see how it is going. You go and look around, you decide that you will memorize everything:

you look at grill, check the fish color, measure the temperature inside the fish, measure the temperature in the kitchen, check the garnish in the slow-cooker and so on. It took quite a while for you to check and memorize everything. You go back to your mom and tell her everything. 15 min later mom asks you to check the food again, since she needs an update, but this time she asks you to flip the fish, fetch her a glass of water and feed your cat Scratches. You are not sure where to start first, so you can get back faster (you love show too) , you want to feed a cat, but suddenly realize that you don`t have cat!, you stand shocked for few minutes and think, then you decide that you mom was probably too much into show and that`s why she told you about hypothetical cat, which you don`t have in reality, you go and run rest of errands, this time it took you even longer to come back and tell mom how the fish is coming along, but at least your mom controls the process and can ask you to turn down the fire, to turn off the slow-cooker and etc. You use only your big bright head to deliver the information.

### Materialized view

At some point you take the fish off the fire and load beer braised Belgian beef stew into the oven, also you get tired from running back and forth, also it takes you lots of time to check and to memorize everything, and you decide to make a cheat list with a table with check marks, so you don't` have to memorize all the stuff. Later you run to the kitchen and fill in the table with all measurements and check marks. You mom looks at the information and says that it all goes great and you can continue watching the show. 20 min later mom tells you that she forgot if the stew had a brown color or it was just light brownish, so you look into your notes and tell her that the color was rich brown. As a result, mom gets updated and you are happy that you don`t need to run to the kitchen to see it, also stew needs another 30 minutes after it gets brown, so no need to worry. In this case you, you store all your information in your notes and can remind you mom about anything she might ask. Besides, you can go and check only one thing, like the humidity levels, because the food still needs a while to get cooked.  You perform faster then before but mom doesn`t get updated on the actual situation in the kitchen, which she doesn't need to, since it takes a while to cook a stew.

### Table

You are done with the fish, stew, paella, sauces, side dishes, all salads and appetizers and you are ready to run  a Michelin restaurant, you are tired and want to finish watching the show, which has only 40 minutes left (it`s a 5-hour episode). But you mom tells you that it is time for apple and butterscotch pie with caramel sauce. And this caramel sauce is hard to prepare, it`s needs a constant supervision, so it doesn't get burned. You and your mom decide to move everything into the kitchen: coach, 64-inches TV, soda and pop-corn machine, so mom can watch the show and control the sauce simultaneously. You do that by yourself: move the furniture and your mom to the kitchen and start stirring the sauce. There is no space in the kitchen, there is a coach taking up all the room, and your mom yelling: "I am not in danger. I am the danger! Kill them all Walter!". You continue staring and stirring the sauce, at the same time you keep telling mom which color it is. It can get burned any second and mom need a real time update. The downside in this case that you have no space in the kitchen left, but you mom can control the sauce (with your assistance) and you don`t have to run back and forth to keep your mom updated.


## 4. Development rigour vs delivery speed …

I can think of only one for now: the second most common case of contradicting priorities is a general approach to prioritizing the ticket queue: which ticket gets higher priority: a question from investor about last year revenue or a ticket from a Product Team Lead, who needs to know a feature usage, so they can run a campaign and target certain groups of customers.

Or even better, there are multiple stakeholders that insist that their ticket needs to be resolved first: heads of departments, managing directors, your BI Lead, besides there is a huge technical debt and the entire data warehouse crashed today due to unknown failure. That is a set of contradicting priorities. My approach to deal with the knot like this would be: first, filter out the issues that are of the least concern to the company, if let`s say Sales team wants to know the top 10 sales managers this quarter and I am sure that this report would not affect company`s performance and/or sales managers salaries (it`s not a commission report), then this ticket would get pushed to the end of the queue. If one of the managing directors needs to know the number of customers and their revenue by country, I can point in the direction of the self-service sandbox , send a link, provide all tools that can be used to extract those numbers. Regarding the ticket from a Product Team Lead, who needs to know a feature usage, so they can run a campaign and target certain groups of customers, I would say this should get the highest priority, since making sure that customers activate as many features as possible may lead to potentially higher revenues, higher ratings, NPS and benefit the company.

Usually, in cases with contradicting priorities I tend to rely on my common sense, good judgment and knowledge of the request context/background. When it gets tough, I believe, the priorities should be decided on via team collaboration (by Team Leads, on a higher level).