

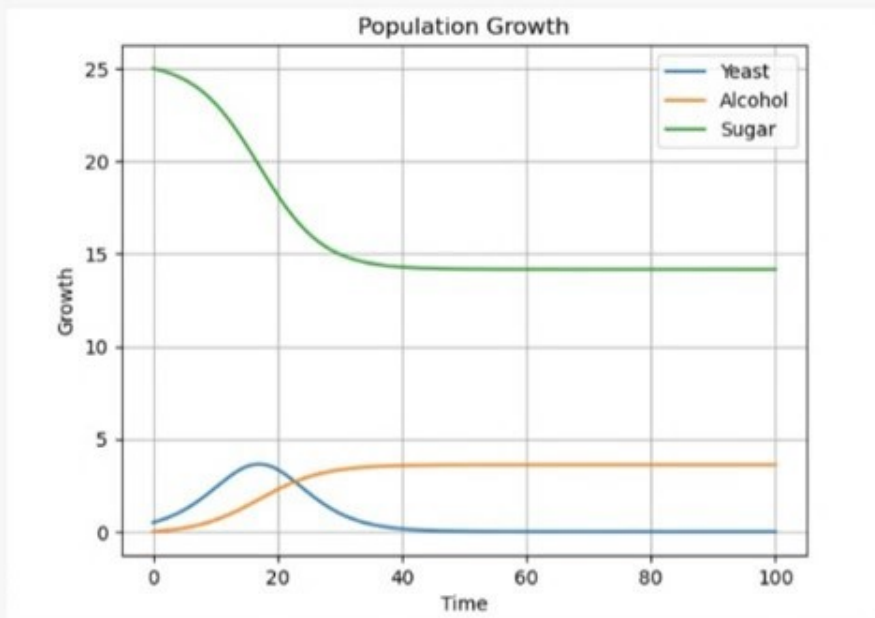
Resolved Unresolved

@57\_f3

Actions

**Nandini Bhat** 1 month ago  
This is my final code for yeast, alcohol, and sugar:

And this is the resulting graph:



My graph looks similar to the final one posted here, but there seem to be some slight differences in the peak amount of yeast and lowest amount of sugar. My yeast and sugar equations may need tweaking.

~ An instructor (Elisabeth stade) thinks this is a good comment ~

helpfull | 1

☒ Resolved ☐ Unresolved @57\_f5



1 month ago

I think it may just be me but I'm really struggling with this problem. I thought I was going in the right direction for a while but now I am pretty sure I am understanding this problem wrong. The topic for this week was on modeling single and multi-species models but it looks like we are reverting back to the SIR model for this one?

I was hoping that there would be more material released this week that would help with understanding this but it feels like we are just "guessing" on what to do. Is there an alternative textbook or a video lecture or additional notes on this type of problem that would help us know if our "guess" is in the right direction?

helpful! | 0



**Nandini Bhat** 1 month ago

Actions ▾

What helped me solve this was taking the equation descriptions very, very literally. For example, "suppose each pound of yeast produces 0.05 lbs of alcohol per hour". I spent a while confusing myself by overthinking it, but then decided to just make an equation that reflects this exact statement - "alcohol production depends on the current amount of yeast". Since the question also tells us to think of alcohol as a "predator" that kills the yeast, it's also helpful to take some inspiration from the Lotka-Volterra equations themselves. It's not exactly the same situation as the rabbits and foxes, but quite similar in that we are using logistic equations.

helpful! | 2