

Resolved Unresolved

@77_f4

Actions



Nandini Bhat 1 month ago

My code for TABLE is a combination of the many code improvements we've made during earlier weeks- the user can enter their own function for the differential equation $f(t)$, and a `np.arange` is used to set time values before the for loop begins. The for loop can then simply iterate over these time values and calculate the change in y at each time point.



1 month ago

Cool modification to build off and allow the user of your program to play and see different accumulations quickly for any equation.

helpful | 0



1 month ago

I agree - very cool modification. I used something similar in my function for plot, since we needed to enter 6 different accumulation functions in to complete activity #3. Declaring a helper function seemed more concise to me, and I often forget that helper functions well...help in some cases.

helpful | 0



1 month ago

I'm always impressed seeing other students take it a step further. Things like entering the formula. Nice description as well.

helpful | 0



1 month ago

I like seeing how others have been using lambda functions along with `eval()` in their code as I have not been the most comfortable with using these, and seeing how they are used allows me to practice with the problems we've been given.

helpful | 0



1 month ago

I also keep seeing `eval()` and have never used it. I need to play around with it, but I'm curious if there are any risks of parse errors with more complex formulas. Regardless, nice job extending the functionality to abstract the formula input for generalized use!

helpful | 0



Nandini Bhat 1 month ago

Thanks, all of you! Along with building my nonexistent calculus foundations, I've found that this course and tips from classmates have really helped me develop a lot of useful Python skills as well. As for [redacted] question, it would be very interesting to see what this method can and can't handle. I've seen people on Stackoverflow be a little wary of using it for applications that are going to be used by the public (fear of misuse, from what I can tell). During the week when one of our classmates introduced `eval`, we also discussed libraries like SymPy as alternatives. Scipy also has a function called "odeint" for systems of DEs- I noticed it being imported in the mini project notebook we were given. There are so many options out there, it's kind of crazy.

helpful | 0

Actions

☒ Resolved ☐ Unresolved

@78_f5



Actions ▾



Nandini Bhat 4 weeks ago

In question 2, we're asked to provide the derivative of the accumulation function. From what I've understood, the function itself is the derivative, as we use it to calculate changes in y (e.g. if the original function is $f(t)$, we use $f(t) * \Delta t$). This is because $f(t)$ determines the slope of the graph of accumulated values. Am I right in thinking that this is how we should answer this question? The book mentioned that with Euler's method we can solve such equations without an exact formula for $f(t)$, and that modeling in this way is used when growth depends on exogenous factors (like the Ebola example).

Or is there something more algebraic to be done (e.g. an exact formula), considering we've been asked to use the graph? I think I'm majorly overthinking this, and am probably a little fuzzy on the concept. If anyone could share how they've approached this question, it would really help!

Edit: I think I may have understood how to describe it. The derivative at each time point is just the value on the histogram at that time point.

helpful! | 1

Reply to this followup discussion