Lab #3 Prep

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Objectives:
1. Design a program that simulates a predator's pursuit of prey, visualizing their trajectories with matplotlib.
2. Use simulation to determine the characteristic that is most important for a hungry cheetah: top speed, acceleration, or endurance.
3. Present design and defend conclusions in a readme with convincing, well-crafted data visualizations.

Inputs:
vel_max_predator = 29 m/s
acc_init_predator = 10 m/s**2
exhaustion_predator = -0.55 m/s**3
dis_init_predator = 0 m
vel_max_prey = 27 m/s
acc_init_prey = 4.5 m/s**2
exhaustion_prey = -0.05 m/s**3
dis_init_prey = 20 m
dt = 0.1 s

Functions:
t_previous = (0, 44.9, 0.1)
t_current = t_previous + dt **(graph's x-values)**
acc_current = acc_init + exhaustion * t_current
vel_previous = (0, vel_max)
vel_current = max(0, min(vel_previous + acc_current * dt, vel_max))
dis_current = dis_init + vel_current * dt **(graph's y-values)**