06.4 - Log Spiral

Starting with the code provided in log_spiral_login.py, add turtle commands into the main function in the program to draw the logarithmic spiral shown below. In Cartesian coordinates, the spiral's path is given by

$$x = ae^{b\theta}\cos(\theta)$$

and

$$y = ae^{b\theta}\sin(\theta)$$

where a=4, b=0.22, and θ increases from 0° . Note that in these equations, θ is in radians, and that the sin and cos functions in Python expect their argument to be in radians. It may be helpful to convert from degrees to radians using

$$\theta_{\rm radians} = \theta_{\rm degrees} * \frac{\pi}{180},$$

or by using the radians function from the standard library's math module. Save your program as log_spiral_login.py, where login is your Purdue login. Then submit it along with a screenshot showing your drawing.

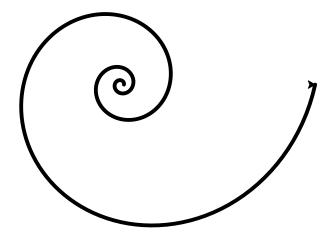


Figure 1: Logarithmic spiral pattern for Exercise 06.4.