CIS 449 A3: Package Development

Due June 19, 2023 @ 11:59 PM

Building on Assignment 2, we are going to continue working with coordinate conversion to create a package.

Your package will include:

* A function called *slope* that is endowed with controls to prevent the stupid things that people can do when writing a function (as suggested in the lecture slide) and also allowing for slope to be interpreted both as a number (like in algebra) and as an angle (such as in geometry). This function should also respond to calculating the slope based on one point (assuming the origin as the other point)
* A function for computing *magnitude* of a vector. This is the distance between the origin and that point
* A function for converting rectangular to polar (this is the 2D parallel of rectangular to cylindrical) (and another in the opposite direction)
* A function for converting rectangular to cylindrical (and another in the opposite direction)
* A function for converting rectangular to spherical (and another in the opposite direction)
* A function for converting cylindrical to spherical (and another in the opposite direction)

Make sure to create the documentation as well as part of the process.