Assignment 1 Part 1

Design 2:

Design two has the drawback of not being able to store it’s coordinates as cartesian. This is hardly a drawback due to methods which allow the cartesian equivalents to be accessed from the polar coordinates through the getRho and getTheta methods. Design 2 operates more efficiently than design 1 because there is no need for many of the “if” statements in design 1. As a result, the code is much shorter and simpler.

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Design 3:

Design 3 has the opposite issue as design 2, in which it cannot store polar coordinates (only cartesian). Whenever the polar coordinates must be accessed, they must be derived from the cartesian coordinates. This does shorten the number of “if” statements and makes the program more efficient. However, when trying to manipulate the cartesian coordinates, they must be accessed using the getX and getY methods.

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