

Problem 5(c)

Here we made the plot for different values of initial radius:

$$r_0 = \rho = 0.75, 0.95, \text{ and } 1.2$$

Here we set $a = 1$.

We can see that when r_0 is smaller than 1, the orbit is very stable in a circle (like the 0.75 and 0.95 case), but when $r_0 = 1.2 > 1$, it becomes quite unstable after several turns.

