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MA375
Dr. Aquino

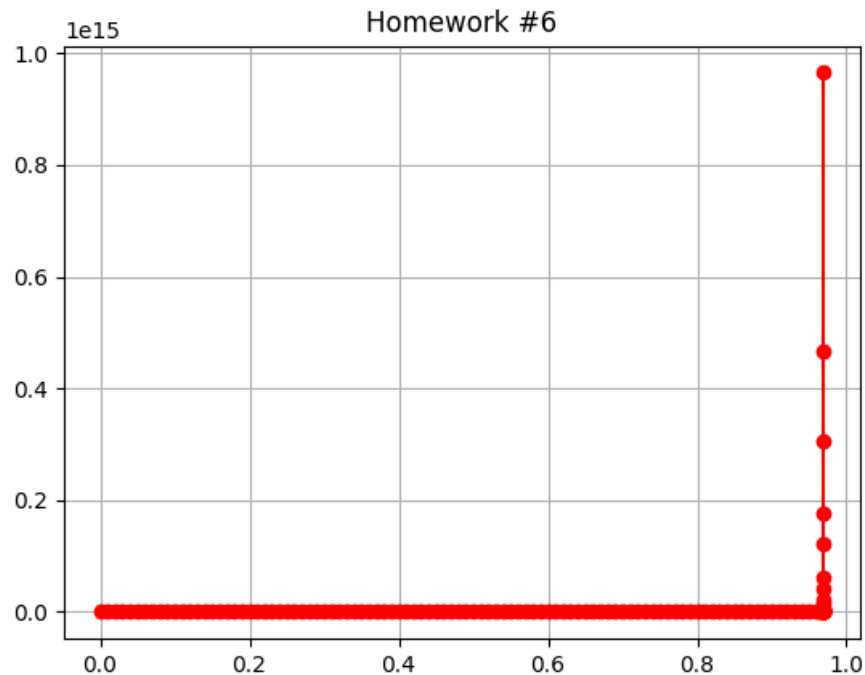
Homework #6: Differential Equations

- a. Approximate solutions of t at the following values using Runge-Kutta method:

t	Solution
0.8	6.218818371880652
0.9	16.702364517744385
0.95	101.93960591899803

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henry@Henrys-MacBook-Pro Song_Henry_Homework #6 % python3 Problem1.py
Solution @ t = 0.80 : 6.218818371880652
Solution @ t = 0.90 : 16.702364517744385
Solution @ t = 0.95 : 101.93960591899803
Solution @ t = 0.97 : 1175.4302059264428
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- b. Plot of part a solution:



- c. When approximating the solution at $t=1$, I run into an error where the largest t value is 0.97. I thought this unusual until looking at the graph, where it appears that the solution at $t = 1$ approaches infinity. It would seem that the largest t value still calculatable is 0.97, which gives us a solution 1175.4302, while the true value of $t = 1$ is infinity.