Problem 50

When $\lambda = -1$, the numerical results show that the fourth order classical Runge-Kutta method works for this problem. However, even if we take $h$ smaller, the method does not work in the cases of $\lambda = -10$ and $-50$, as shown in the data tables and graphs. So, it is guessed that the method can be stable if $\lambda = -1$, but unstable in the cases of $\lambda = 10$, and $-50$.