Zewail City of Science and Technology
PEU Program, Fall 2018-19
PEU 450: Computational Physics
Homework 12
Due date: Thursday, Dec 19

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1. Problem 10.1: obtain the energy eigenvalues for the odd parity solutions only using the shooting method. Compare with the exact solution. The code has the results for the even-parity solutions.

2. (10 points) Problem 10.2 using the shooting method.

3. Problem 10.7 using the shooting only for $l = 0$.
   (a) (10 points) Obtain the two first eigenvalues.
   (b) (10 points) Obtain the corresponding radial probability distributions and compare them with the exact results in one plot.