Project 1

Physics 410

September 26, 2018

This project involves self-study, code design and execution for the purpose of solving bound state problems using root finding, and presentation of the results. It follows Chapter 2 in the textbook by DeVries and Hasbun. If you don't have a copy of the text, let me know and I can give you a copy of the relevant pages (some of which are covered in class or tutorial).

- Study the propagator method using section 2.13 in the textbook. To demonstrate the method, solve exercise 2.16, re-deriving the conditions for the bound states for a single well potential.
- Using the results in exercise 2.17 (which you do not need to re-derive yourself), study the double well-potential with specific parameters, as in exercise 2.18.
- Generalize for the N-square well potential, as in exercise 2.19.

The project will be marked on the result (75%), presentation of the results (15%) and clarity and efficiency of the code (10%).