1. Discus the Eigen values and Eigen function of the particle in a 1D infinite potential well.

2. The ground state energy of an electron in an infinite potential well is 5.6×10^{-3} eV. What will be the ground state energy if the width of the well is doubled?

3. Plot the first four states Eigen functions for a particle in an infinite potential well.

4. A particle of mass *m* is placed in an infinite square well of width *L* in a quantum state for which n=2.
   (a) In the vicinity of what position(s) is the particle most likely to be found within the well?
   (b) What is the probability of finding the particle between positions x=L/4 and x=L/2