Homework 1 (Due 03/23/2022)

1. Finish the matlab onramp tutorial. https://www.mathworks.com/academia/targeted/online-learning.html?s_tid=tutorial_offer_pers_maots

2. For the van der Waals equation for the energy between two particles due to induced dipole-induced dipole interaction, $v(r) = \epsilon\left(\left(\frac{\sigma}{r}\right)^{12} - \left(\frac{\sigma}{r}\right)^{6}\right)$. (a) Please identify the minimum of vdW potential. (b) Please write a Matlab function that takes σ (Å) and ϵ (kcal/mol) and plots the vdW potential. You need to properly label the axis and units. In (b), you need to set meaningful values for biomolecular interactions in a liquid phase.

3. Please write a pseudo code for solving problem 1.A.3

4. 1.B.2