Assignment #2:

Problem #1: The Order Indicator

Your program should print the order of the maxima in a double slit diffraction experiment. The values of $\lambda,\ \theta\ \&\ d$ should be given as input. The output should be "m-th order maxima". The valid range for the wavelength should be from 380 nm to 750 nm. Out of this range for wavelength should give an output: "Out of the range. Please enter a valid number."

The wavelength range for different color:

Color	Wavelength (nm)
violet	380–450
blue	450–485
cyan	485–500
green	500–565
yellow	565–590
orange	590–625
red	625–750

Please note the following:

- λ should be in nm (10^{-9})
- d and a's are in μm (10^{-6})

Problem #2

What must be the ratio of the slit width to the wavelength for a single slit to have the first diffraction minimum at $\theta = 45^{o}$?