Submit your work on Catcourses by February 10th at 11:59pm

Please be aware that in this homework, your approach and your justifications will be given **a lot** more importance than your final results. This means that you should think about how you will present and explain your work so that what you turn in makes sense, even if it is read by someone unfamiliar with the problem. This is a good training for your final report project.
Read entirely the homework assignment first !

1. Work on the exercises 2.4, 2.5 from the typed notes `Math150_Chapter2.pdf`
2. We want to characterize the growth of the number of fish (x) and shrimps (y) in Lake Yosemite, using the model
$$\frac{dx}{dt} = \alpha x(1 - x - \beta y)$$
$$\frac{dy}{dt} = \gamma y(1 - x - \beta y)$$
   (a) Whis the role of the quantities α, β, γ ?
   (b) Suppose $\alpha > 0, \beta > 0, \gamma > 0$. Is this a prey-predator model ?
   (c) Find the critical points.
   (d) Determine the stability of the critical points, if you can.
   (e) If you can't determine the stability of the critical points, what could you do ?
3. Submit all your answers **in a single .pdf** (or a single .ipynb) on Catcourses your answers under the assignment `Homework 2 (individual)`. You can scan handwritten answers or type them.