Homework

1. Plot the functions $f(x) = \log(\frac{x}{1-x})$ between 0 and 1. You actually have to make the interval a little bit smaller because the function goes to infinity as x approaches 1 and to minus infinity as x approaches 0. This is the logit function.

2. Add a plot of the function $g(x) = \frac{\exp(x)}{1+\exp(x)}$ in red to the graph from Problem 1. Give the plot a title (logistic and logit functions) and add legends. This is the logistic function.

3. Create a plot of features 0 and 2 of the Iris data set. You should install sklearn to gain access to this data set.

4. Create a contour plot of $f(x,y) = (2-x)^2 + 10(x^2-y)^2$ in $[0,5] \times [0,5]$. Notice that the last addend contains a square of $x^2 - y$. Then try to minimize this function.