Homework #5

This is an individual assignment. All work you submit must be your own.

1. Lexington Furniture Company makes chairs, desks, and tables. Each product requires labor in the parts fabrication department, the assembly department, and the shipping department. The maximum number of units that can be sold for each product have been estimated for the next month, as well as the profit margin per unit. The table below provides all the relevant data for this problem.

	Hours / Unit			Hours
Department	Chairs	Desks	Tables	Available
Fabrication	4	6	2	1,850
Assembly	3	5	7	2,400
Shipping	3	2	4	1,500
	Chairs	Desks	Tables	
Profit/Unit	$15	$24	$18	
Max. Sales	360	300	100	

   a. Develop an optimization model in a Jupyter Notebook using Python to find an optimal solution for this problem.
   b. Which constraints are binding and what are their marginal values?