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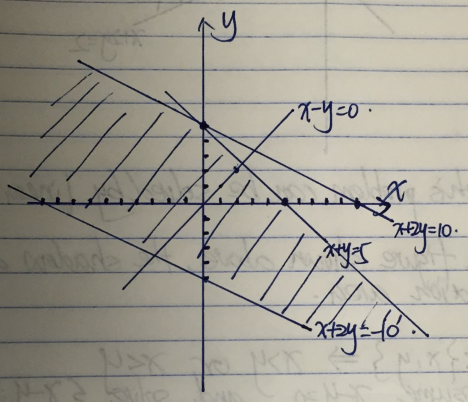
CS325-001

Practice 5

1. We can negated the linear function descript in this problem, and get this new function's minimize value. ~~Then~~ Because the minimize value of negated function is the maximum value of ~~for~~ this function.

2.



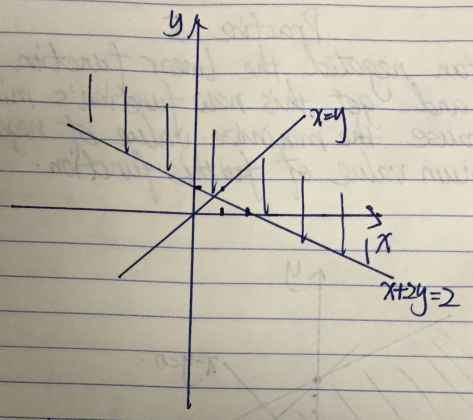
Yes, this problem can be solved by a linear ~~prob~~ program.

According to the figure shown above, we know the shadow area is solution's area.

$$\begin{cases} x+y=5 \\ x+2y=-10 \end{cases} \Rightarrow \begin{cases} x=20 \\ y=-15 \end{cases}.$$

$\therefore \max x-y = 20-(-15) = 35.$

3.



Yes. this problem can be solved by linear program

As the figure shown above, the shadow area is the solution area.

$\because \max\{x, y\} \Rightarrow x > y$ or $x < y$

we assume $x - y = 0$ and solve $\begin{cases} x - y = 0 \\ x + 2y = 2 \end{cases} \Rightarrow \begin{cases} x = 2/3 \\ y = 2/3 \end{cases}$

$\therefore \min \max\{x, y\} = 2/3$.

4.