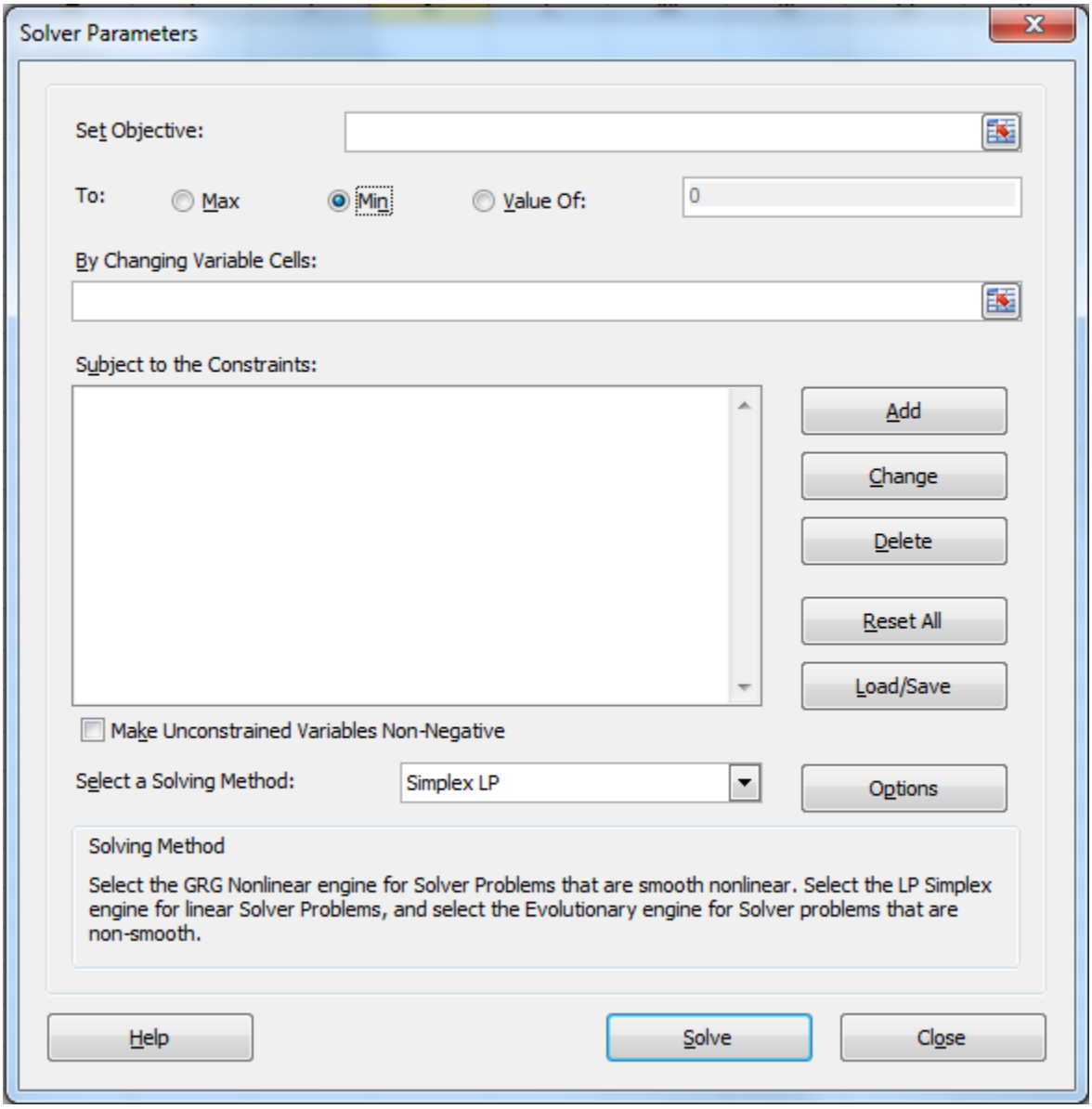
Example: Mixing Drinks at Club Fever

We are asked by Club Fever to come up with the optimal plan to mix drinks for a Thursday night. Excel file "Mixing Drinks.xlsx"

Set up the Mixing Drinks model in Excel for Solver:

	A	B	C	D	E	F
1	**Mixing Drinks**					
2						**Notes: Recipe (1 cup = 6 ounces)**
3	**Monetary inputs**	Sex on the Beach	Cosmopolitan			**1 Cup of Sex on the Beach**
4	Selling price/cup	$5.00	$7.00			>= 1 ounce of Vodka
5						>= 1 ounce of Peach Schnapps
6	**Alcohol percentage of ingredients**					>= 1 ounce of Fruit Juice
7	Vodka	0.40				**1 Cup of Cosmopolitan**
8	Peach Schnapps	0.21				>= 1 ounce of Vodka
9	Triple Sec	0.30				>= 1 ounce of Triple Sec
10	Fruit Juice	0.00				>= 1 ounce of Fruit Juice
11						
12	**Required alcohol percentage**					
13		Sex on the Beach	Cosmopolitan			
14		0.12	0.30			
15						
16	**Blending plan**					
17		Sex on the Beach	Cosmopolitan	Ounces used		Available ingredients (ounces)
18	Vodka					1200
19	Peach Schnapps					600
20	Triple Sec					500
21	Fruit Juice					3000
22	Ounces produced					
23	Cups sold					
24						
25	**Constraints on alcohol percentage**					
26		Sex on the Beach	Cosmopolitan			
27	Alcohol obtained (ounces)					
28						
29	Alcohol required (ounces)					
30						
31	**Objective to maximize**					
32	Revenue					

Entering the Mixing Drinks model into Solver:



Solution to the Mixing Drinks model:

	A	B	C	D	E	F
1	**Mixing Drinks**					
2						**Notes: Recipe (1 cup = 6 ounces)**
3	**Monetary inputs**	Sex on the Beach	Cosmopolitan			**1 Cup of Sex on the Beach**
4	Selling price/cup	$5.00	$7.00			>= 1 ounce of Vodka
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11						
12	**Required alcohol percentage**					
13		Sex on the Beach	Cosmopolitan			
14		0.12	0.30			
15						
16	**Blending plan**					
17		Sex on the Beach	Cosmopolitan	Ounces used		Available ingredients (ounces)
18	Vodka	765	435	1200	<=	1200
19	Peach Schnapps	600	0	600	<=	600
20	Triple Sec	0	290	290	<=	500
21	Fruit Juice	2235	145	2380	<=	3000
22	Ounces produced	3600	870			
23	Cups sold	600	145			
24						
25	**Constraints on alcohol percentage**					
26		Sex on the Beach	Cosmopolitan			
27	Alcohol obtained (ounces)	432	261			
28		>=	>=			
29	Alcohol required (ounces)	432	261			
30						
31	**Objective to maximize**					
32	Revenue	4,015				

Questions:

1. With the above optimal mixing, Club Fever will obtain a revenue of $_____.

2. If Club Fever need to produce at least 200 cups of Cosmopolitan, how should we modify the model? How would the revenue change as a result of this modification?

3. Based on the original model, how much is Club Fever willing to pay for 2 additional handles (60 ounces each) of Peach Schnapps?