

## §4.13 (PART 1): THE TWO-PHASE SIMPLEX METHOD

1.] Consider the following LP:

$$\text{Minimize: } z = 4x_1 + x_2$$

$$\text{Subject to: } 3x_1 + x_2 = 3$$

$$4x_1 + 3x_2 \geq 6$$

$$x_1 + 2x_2 \leq 4$$

$$x_1, x_2 \geq 0$$

a.) Set up Phase I and solve it.

Row	Basic		RHS
0	$w$		
1			
2			
3			

Row	Basic		RHS
0'	$w$		
1'			
2'			
3'			

Row	Basic		RHS
0''	$w$		
1''			
2''			
3''			

2.] Write down the associated LP for Phase II. Then construct the initial tableau and solve it.

Row	Basic		RHS
0	$z$		
1			
2			
3			

Row	Basic		RHS
0'	$z$		
1'			
2'			
3'			

Row	Basic		RHS
0''	$z$		
1''			
2''			
3''			