$x_1/3000$ $\quad$ $x_1/3000002$ $x_3/3000003$ $x_4/3000004$ $x_5/3000005$ -1 Problem 3

$1/300001$ $\quad$ $-1/3000002$ $1/300003$ $\quad$ $1/300004$ $\quad$ 0 $\qquad$ $-2 = -x_6$

$-1/3000002$ $-1/3000002$ $-2/3003$ $\quad$ 0 $\qquad$ 0 $\qquad$ $1 = -x_7$

$1/3001$ $\quad$ 0 $\qquad$ $2/3003$ $\qquad$ $-1/3000002$ $-4/3005$ $\quad$ $2 = -x_8$

$2/301$ $\quad$ 0 $\qquad$ $1/3000002$ $\quad$ 0 $\qquad$ $1/305$ $\qquad$ $2 = f \to min$

Combine first and second columns and multiply last row by -1 to obtain standard tableau. Also, simplify further by looking only at the sign of value in each position as shown below.

x1	x3	x4	x5	-1	
+	+	+	0	-2	negative x6
-	-	0	0	1	negative x7
+	+	-	-	2	negative x8
-	-	0	-	-2	(-f) --- max

As shown above, the first row is bad, so **the LP is infeasible**.

Note that the value in the first row, first column is positive because:

$$(1/3000)(1/300001)-(1/3000002)(1/3000002) > 0$$

This first row specifies an infeasible constraint.