

(a) Give the dual of this problem.

$$\begin{array}{rcllclclclcl}
 \text{Maximize} & 3u & + & 2v & + & 4w & & & & & \\
 \text{subject to} & 2u & + & 2v & + & 3w & + & x & & & = 4 \\
 & 2u & + & v & + & 2w & & & + & y & = 2 \\
 & 2u & + & 2v & + & w & & & & + & z = 6 \\
 & u & & & & & & & & & \geq 0 \\
 & & & v & & & & & & & \geq 0 \\
 & & & & & w & & & & & \geq 0
 \end{array}$$

(b) Give the initial simplex tableau of the dual.

u	v	w	x	y	z	P	
2	2	3	1	0	0	0	4
2	1	2	0	1	0	0	2
2	2	1	0	0	1	0	6
-3	-2	-4	0	0	0	1	0

(c) Identify the pivot point in the initial simplex tableau and then pivot to the next simplex tableau.

u	v	w	x	y	z	P	
-1	0.5	0	1	-1.5	0	0	1
1	0.5	1	0	0.5	0	0	1
1	1.5	0	0	-0.5	1	0	5
1	0	0	0	2	0	1	4