Step-1

Let us consider the following linear programming problem

Maximize the cost: $x_1 + x_2 + x_3$

Subject to following constraints

$$2x_1 + x_2 \leq 4$$
$$x_3 \leq 6$$

Step-2

Let us write the data in vector form.

Here, $c = \begin{bmatrix} 1 & 1 & 1 \end{bmatrix}$

And

$$A = \begin{bmatrix} 2 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}$$

And there is no constraint $x_i \geq 0$

Step-3

Therefore, the dual will have the following equality

$yA = c$ or $A^T y = c^T$

And it gives the results

$$2y_1 = 1$$
$$y_1 = 1$$
$$y_2 = 2$$

And there is no feasible solution for the problem.

Step-4

So the primal must have as maximum value along with the following values of the unknown

$$x_1^{\bullet} = -N$$
$$x_2^{\bullet} = 2N$$
$$x_3^{\bullet} = 0$$

And the maximum value of the cost is $x_1 + x_2 + x_3 = N$ (some arbitrarily large value)