Where \( \pi \) is some permutation of \((1,2,\ldots,n)\).

Then be of the form:

The general tableau resulting from a sequence of pivots with \( B \not\approx B' \) we will further suppose that the problem has been brought to

By the tableau

\[
\begin{array}{c|c|c|c|c|c|c|c}
    \\downarrow & \\downarrow & \\downarrow & \\downarrow & \\downarrow & \\downarrow & \\downarrow & \\downarrow \\
    x_1 & x_2 & \cdots & x_n & \cdots & x_{m+1} & \cdots & \cdots \\
\end{array}
\]

\[
d + \sum (x_i x_{m+i})
\]

Subject to:

\[
\begin{bmatrix}
    1 \\
    \vdots \\
    1 \\
    \vdots \\
    1 \\
\end{bmatrix}
\]

Matrix: \( F = \begin{bmatrix} a & \cdots & a \end{bmatrix} \)

We will represent the linear programming problem in standard form: represent the linear programming problem in standard form.
is a solution of the equality constraints of the standard form problem if and only if it satisfies the equivalent system of equations and that such a solution the value of the objective function is given by

\[ f = c_1 x_1 + \cdots + c_n x_n + d. \]

Bell's criterion for the selection of a pivot point \( (i,j) \) is to use the following criteria:

1. Choose \( i \) so that \( c_i = \min \{ c_j \mid c_j < 0, j = 1, \ldots, n \} \).
2. Choose \( j \) so that \( a_{ij} = \min \{ a_{ij} \mid a_{ij} > 0, i = 1, \ldots, m \} \).

That is, from among those columns for which \( c_j \) is strictly negative, choose the one for which the associated non-basic variable has lowest index.

It is easily verified that a pivot selected in this way for which the associated basic variable is not increased is back entering. If \( m + 1 \) is the order of the table, resolve it by selecting the row for which the value of the objective function is not increased.

We now verify that when the simplex algorithm is modified by selecting pivots in the above way cycling is precluded.

To derive a contradiction, suppose that we have a tableau in a feasible form for which the algorithm cycling the columns and rows which do not contain pivots for a new problem which occur in the cycle and is such that during the course of the cycle each of the initial non-basic variables and vice versa (as completion of the very tableau is returned to its original form)!

For the algorithm to have cycled the objective function must have remained constant at \( b_1 = b_2 = \cdots = b_m \) throughout the cycle. Since pivoting about the \( b \)th row we have established that in each of the columns of the tableau we must have \( b_1 = b_2 = \cdots = b.m \) and consequently...
On the other hand, using the previous tableau we have
\[ t = d + c \geq 0, \text{ as } c \geq 0.\]

For this solution the last tableau gives
\[ \Pi_n = (I+d)x = N, \quad N = (I+d)x.\]

\[ \begin{aligned}
\Pi_n &= (I+d)x \\
(\not= 0) &\Downarrow \{1,2\} \Downarrow 0 \\
1 &= (f), \quad x = (f), \quad x
\end{aligned} \]

and all of which are positive except \( x = N \).

\[ \begin{array}{c|cc}
\hline
f & d & c \\
\hline
(1+w), x & - \\
(1+w), x & - \\
1-x & 1-x \\
\hline
\end{array} \]

\text{Constraints I:}

\text{which is not feasible or feasible to the equality}

From this last tableau it is easily verified that a solution

saller index, must have \( \Pi_n = 0 \).

been chosen all other rows, along with variables of

\( a(x) \geq 0 \) are stated and so for the rows associated with \( a(x) \geq 0 \) are zero. All rows with

\( \alpha(x) \geq 0 \) are zero. All rows with

where \( \alpha(x) \geq 0 \). Since all the \( b_i \) are zero. All rows with

\[ \begin{array}{c|cc}
\hline
f & d & c \\
\hline
(1+w), x & - \\
(1+w), x & - \\
1-x & 1-x \\
\hline
\end{array} \]

The tableau from which \( x \) is changed from a basic variable back

\text{to its original position as a non-basic variable must have the}

\text{form of the tableau in which to pivot.}

were strictly negative we would have selected a column with

where \( \alpha(x) \geq 0 \). If any other component of \( \alpha(x) \) besides the \( j \)th

\[ \begin{array}{c|cc}
\hline
f & d & c \\
\hline
(1+w), x & - \\
(1+w), x & - \\
1-x & 1-x \\
\hline
\end{array} \]

non-basic variable to a basic variable must have the form

of the cycle we conclude that \( B = 0 \).

\[ \begin{array}{c|cc}
\hline
f & d & c \\
\hline
(1+w), x & - \\
(1+w), x & - \\
1-x & 1-x \\
\hline
\end{array} \]

\[ \begin{array}{c|cc}
\hline
f & d & c \\
\hline
(1+w), x & - \\
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\hline
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1-x & 1-x \\
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(1+w), x & - \\
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(1+w), x & - \\
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\hline
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1-x & 1-x \\
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\end{array} \]

\[ \begin{array}{c|cc}
\hline
f & d & c \\
\hline
(1+w), x & - \\
(1+w), x & - \\
1-x & 1-x \\
\hline
\end{array} \]
has been observed to cycle. This may contribute to the observed bias in models. We conclude by observing that natural ways of coding the

Given the desired contradiction,

as \( c < 0 \), \( x_N > 0 \), and for \( j \neq \) \( 0 \) and \( x_N^j \),

\[ b_j \leq \sum_{k=1}^{\infty} c_k x_N^k - d \leq d. \]