Simplex Method Procedure

Step 1: write the given LPP in standard form

Step 2: write initial basic feasible solution.

Step 3: Make initial simplex Table.

Step 4: Are all entries in Z-row non-negative ?

(1) If yes then the current solution is optimal basic feasible solution.

(2) If no then select the most negative entry (smallest entry) in Z-row. The corresponding column is called key column (pivot column). and corresponding variable enters in the basis (set of all basic variables).

Step 5: obtain the replacement ratio by dividing solution column by key column.

Step 6: Are all ratios infinite and/or negative ?

(1) If yes then the LPP has unbounded solun

(2) If no then select the minimum finite non-negative ratio. The corresponding row is called key row. and the corresponding variable leaves the basis. (If these is a tie then consider arbitrary min non-ve ti ednumber

(If ratio has 0 then take that ratio whose denominator is +ve in pivot column).

Step 7: Mark the key element (pivot element) as intersection of key row and key column.

Step 8: Make the new simplex table (or update) by elementary row transformation as

(1) first make key element 1 by dividing the key row by key element

(2) Make all other elements of key column 0 (zero) by subtracting or adding proper multiples of new row to the old row.

Step 9: Go to Step 4. and continue till you reach step 4 (1) or step 6 (1).

Flow chart