LINEAR PROGRAMMIG

CONVEX SETS AND THEIR PROPERTIES

Cor. 1 The extreme points of the convex set of feasible solutions are finite in number.

From theorem V and its converse we conclude that there is only one extreme point for a given B.F.S. and vice versa. That is there is one-to-one correspondence between the extreme points and the B.F. Solutions in the absence of degeneracy. Also is case of degeneracy corresponding to an extreme point with the number of non-zero variables less than m, We can form more than one degenerate B.F.S. Hence the number of extreme points of the feasible region is finite and it can not exceed the number of its B.F. solutions.

Notes :-

(i) An extreme point can have at most m-positive x_i's where m is the number of Constraints.

(ii) In an extreme point, vectors associated to the positive x_i's, are L.I.