

A SYSTEM OF LINEAR EQUATIONS THAT HAS NO SOLUTION IS SAID TO BE INCONSISTENT; IF THERE IS AT LEAST ONE SOLUTION OF THE SYSTEM, IT IS CALLED CONSISTENT.

THE AVGMENTED MATRIX FOR A LINEAR SYSTEM IS THE ARRAY FORMED BY REMOVING THE VARIABLES, $+$ 'S, AND THE $=$ 'S FROM THE SYSTEM.

NOTE: THE UNKNOWN'S OF THE SYSTEM MUST BE WRITTEN IN THE SAME ORDER AND THE CONSTANTS MUST BE ON THE RIGHT.

ELEMENTARY ROW OPERATIONS

FOR LINEAR EQUATIONS:

- 1) MULTIPLY AN EQUATION THROUGH BY A NONZERO CONSTANT.
- 2) INTERCHANGE TWO EQUATIONS.
- 3) ADD A MULTIPLE OF ONE EQUATION TO ANOTHER.

FOR ROWS OF THE AVGMENTED MATRIX:

- 1) MULTIPLY A ROW THROUGH BY A NONZERO CONSTANT.
- 2) INTERCHANGE TWO ROWS.
- 3) ADD A MULTIPLE OF ONE ROW TO ANOTHER ROW.