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ASSIGNMENT 2

2. **LINEAR TRANSFORMATION**:

It is also called linear mapping ,it is a mapping V W between two modules (for example, two vector spaces) that preserves ( in the sense defined below) the operations of addition and scalar multiplication.

1. **RANK OF A MATRIX**:

In linear algebra, the rank of a matrix A is the dimension of the vector space generated (or spanned ) by its columns. This corresponds to the maximal number of linear independent columns of A . This , in turn, is identical to the dimension of the vector space spanned by its rows. The rank is commonly denoted by rank(A) or rk(A); sometimes the parenthesis are not written, as in rank A

1. MATRIX X

.

1 2 8

4 7 6

9 5 3

X = 1 7 6 -2 4 6 + 8 4 7

5 3 9 3 9 5

X = 1( 21 – 30 ) - 2 ( 12 – 54 ) + 8 ( 20 – 63 )

X = -9 +84 -344

= -269

X ≠ 0

THE MATRIX X IS A NON-SINGULAR MATRIX.



DOMAIN X CODOMAIN Y

E. .2

F. .4

G. .6

H. .8

I. .10

J.

K.

X T Y