

**13 Note:****Reading Materials**

**Definition** The solution space of  $AX = 0$  is called the **null-space** of  $A$  and denoted by  $null(A)$ .

**Definition** Dimension of the null-space of  $A$  is called **nullity** of  $A$  and denoted by  $nullity(A)$ .

**NOTE:** in the above example  $rank(A) = 3$  and  $nullity(A) = 4$ . Recall the **dimension theorem** : Is  $A$  is an  $m \times n$  matrix then  $rank(A) + nullity(A) = n$ .

Locate examples in your text book that show how to solve  $AX = 0$  and how to find a basis for the null-space of given matrix.

**End of reading Materials**