(9) rank column space (A) + null space (A) = n = number of columns

rank (A) = dim (C(A))

$\Rightarrow$ dim(C(A)) + dim (N(A)) = n $\rightarrow$ odd

but if dim C(A) = dim N(A) = x

$\Rightarrow$ $2x = n$

$x = n/2$ $\Rightarrow$ not possible when 'n' is odd.

Hence Column-space and Null-space cannot be equal in case of a n by n matrix where n is odd.