## Chapter 1: Linear Equations in linear algebra - The matrix Equation

## **Summary**

A homogeneous matrix equals zero. There is always at least one solution (the trivial solution) because Ax = 0 if x = 0.

## **Terminology**

Homogeneous

- $\bullet \quad \mathsf{A}\mathsf{x} = \mathsf{0}$
- always has a solution because the x's can just be zero

If we have the same matrix but it isn't homogeneous, and instead equals a number, the span of this matrix is the homogeneous span but shifted.