

# 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

- $Ax = 0$
- 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.