

**Ambitions** This document will lead to understanding matrix decomposition, their applications and their implementations (likely in haskell, sanity permitting).

## 1 Lower Upper Decomposition

- Also known as LU decomp, this decomposition splits a matrix  $A$  into a lower triangular matrix  $L$  and an upper triangular matrix  $U$

$$A = LU \tag{1}$$

- god help me how do i LU decomp