Matrix Determinants

1 Why

2 Definition

2.1 Notation

TODO: notation uses permutations and $d \times d$.

Let $A \in \mathbf{R}^{d \times d}$. The determinant of A is

$$\sum_{\sigma \in S_n} \left(\mathbf{sgn}(\sigma) \prod_{i=1}^{n} a_{i,\sigma_i} \right)$$

We denote the determinant of A by $\mathbf{det}\, A$.