



# 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 **det**  $A$ .



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