

# Compute invariants using Macaulay2

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We describe a procedure for finding invariant rings in Macaulay2, using results from “Ideals, varieties and algorithms”.

## 1 Preliminaries

Suppose a matrix group acts on a affine space  $\mathbb{A}^n$ , by actions fixing the origin. If  $M \in \mathrm{GL}_n(k)$  acts on  $P \in \mathbb{A}^n$  by  $P \mapsto MP$ , the corresponding action on the coordinate rings are given by  $x_i \mapsto A^T x_i$ .