Algebraic geometry 1
Exercise sheet 7

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Exercise 2. For every homogenous polynomial $F(X_0, \dots, X_n)$ of degree m we attach $\{f_i\}_{i=0,\dots,n}$, where $f_i(X_{0/i}, \dots, X_{n/i})$ is the unique polynomial such that $\beta_i(f_i) = \frac{F(X_0,\dots,n_n)}{X_i^m}$, where

$$\begin{aligned} \beta_i \colon \mathbb{Z}[X_{0/i}, \dots, X_{n/i}] &\to \mathbb{Z}[X_0, \dots, X_n, X_i^{-1}] \\ X_{j/i} &\mapsto \frac{X_j}{X_i} \end{aligned}$$

Injectivity: If $f_i = 0$