Exercise 1. Show that every singularity is equivalent to an ideal-type singularity.

Exercise 2. The goal of the game MONOMOLY is to manipulate a given simplicial complex $\Gamma$ with vertices labelled by $\mathbb{Q}_{\geq 0}$ so that the sum of all vertices in any face is less than 1. The only allowed operation is to subdivide a face by inserting a new vertex with label equal to the sum of the labels of vertices of the face minus 1.

Exercise 3. For the subhabitat $(V = \mathbb{A}^1, \ldots)$ of $(W = \mathbb{A}^2, \ldots)$, show that the following statements are true.

1. If $A$ is closed, the $\text{Extension}_1(A) = \text{Extension}_2(A)$.
2. $\text{Extension}_1(A)$ restricts properly to $V$, and $\text{Restriction}(\text{Extension}_1(A)) = A$.
3. If $B$ restricts properly to $V$ and $B$ is closed, then $\text{Extension}(\text{Restriction}(B)) = B$.
4. The singular loci of $\text{Extension}(A)$ and $A$ are equal.
5. $\text{Closure}(\text{Extension}(\text{Transform}(A))) = \text{Closure}(\text{Transform}(\text{Extension}(A)))$.
6. $\text{Closure}(\text{Restriction}(\text{Transform}(A))) = \text{Closure}(\text{Transform}(\text{Restriction}(A)))$. 