

§ 43 Relative Cohomology.

It goes just like you would think

Def

$$C^p(k, k_0) = \text{Hom}(C_p(k, k_0), \mathbb{Z})$$

$\uparrow$
 subcomplex

Then δ is the dual of $\mathcal{I}$ and Z^p, B^p and $H^p(k, k_0)$ are defined as usual.

We also get the exact seq of a pair (K, k_0) , but now:

$$\dots \leftarrow H^p(k_0) \leftarrow H^p(k) \leftarrow H^p(k, k_0) \xleftarrow[\substack{\uparrow \\ \text{from zig-zag lemma}}]{S^x} H^{p-1}(k_0) \leftarrow \dots$$

A reduced cohomology version exists, and a simplicial map $f: (K, k_0) \rightarrow (L, l_0)$ induces a homomorphism of the long ~~seq~~ exact seq in cohom.