

A commutative diagram illustrating the relationships between various spaces and maps in a chain complex across indices $n-1$, n , and $n+1$.

The diagram consists of the following nodes and maps:

- Top Row:**
 - $X^{n-1} \xrightarrow{d^{n-1}} X^n \xrightarrow{d^n} X^{n+1}$ (curved arrows)
 - $X^{n-1} \twoheadrightarrow B^n \hookrightarrow X^n$ (straight arrows)
 - $X^n \twoheadrightarrow B^{n+1} \hookrightarrow X^{n+1}$ (straight arrows)
- Bottom Row:**
 - $H^{n-1} \twoheadrightarrow H^n \twoheadrightarrow H^{n+1}$ (straight arrows)
- Intermediate Nodes and Maps:**
 - C^{n-1} is below X^{n-1} and B^n .
 - $X^{n-1} \twoheadrightarrow C^{n-1}$ (straight arrow)
 - $C^{n-1} \hookrightarrow B^n$ (straight arrow)
 - Z^n is below B^n and X^n .
 - $B^n \twoheadrightarrow Z^n$ (straight arrow)
 - $Z^n \hookrightarrow X^n$ (straight arrow)
 - $Z^n \twoheadrightarrow H^n$ (straight arrow)
 - C^n is below X^n and B^{n+1} .
 - $X^n \twoheadrightarrow C^n$ (straight arrow)
 - $C^n \hookrightarrow B^{n+1}$ (straight arrow)
 - $C^n \hookrightarrow H^n$ (straight arrow)
 - Z^{n+1} is below B^{n+1} and X^{n+1} .
 - $B^{n+1} \twoheadrightarrow Z^{n+1}$ (straight arrow)
 - $Z^{n+1} \hookrightarrow X^{n+1}$ (straight arrow)
 - $Z^{n+1} \twoheadrightarrow H^{n+1}$ (straight arrow)