17-1750 Shameless Mathematica on Friday Oct 27

October 27, 2017 9:12 AM

- Mathematica refunds?
- Reading week is Nov 6,10 (next next week). Meet?

On board:

$$\mathcal{C}: \cdots \to C_{n-1} \xrightarrow{d_{n-1}} C_n \xrightarrow{d_n} C_{n+1} \to \cdots$$

s.t. $d_{n-1} \circ d_n = 0$ $H_n = \ker d_n / \operatorname{im} d_{n-1}$

$\beta_n = \dim H_n = \dim C_n - \operatorname{rank}(d_n) - \operatorname{rank}(d_{n-1})$

Case 1. $C_{n,p} = \left\{ \begin{matrix} \text{Poly's in} \\ x_1 \dots x_n \end{matrix} \right\}^{\deg p} = FC(x_1 \dots x_n)_p$

$$d = \sum_{k=0}^{n+1} (-1)^k d_{n,k} \qquad d_{n,k}\, x_i = \begin{cases} x_i & i < k \\ x_i x_{i+1} & i = k \\ x_{i+1} & i > k \end{cases}$$

Case 2. (today)

$C_{n,p} = FA(x_1 \dots x_n)_p = ?_0$

Same d ?