$(K, \le)$ $x, y \in K$ $x \wedge y$ $x \vee y$

$\Rightarrow$ svaz

inf A, sup A, $A \subset K$

$\Rightarrow$ úplný svaz

$x \le f(x)$

$\boxed{f(x)} \le f(f(x)) \in f(M)$ $\boxed{\text{Kleene's chain}}$

$\in M$

$\boxed{0 \le f(0) \le f(f(0)) \le \dots}$

3 19-18:01

$d(x,z) \le d(x,y) + d(y,z)$

$(x^{n-k} \cdot m(x)) : p(x)$ dělení se zbytkem

$x^{n-k} \cdot m(x) = q(x) \cdot p(x) + r(x)$

$r(x) + \boxed{x^{n-k} \cdot m(x)} = v(x)$

$a_0 + a_1 x + \dots + a_n x^n$

3 19-18:14

$n=4,\ k=$ $\Rightarrow$ $m(x) = b_0$

$(x^2 \cdot b_0) : (x^2+x+1) = b_0$ $p(x) = 1+x+x^2$

$b_0 x^2 + \boxed{b_0 x + b_0}$ $n-k=2$

$= r(x)$ $n=3,\ k=1$

$m(x) = b_0 \longmapsto v(x) = b_0 + b_0 x + b_0 x^2$

$(1+x)(1+x^3+x^{10}) = 1+x+x^3+x^4+x^{10}+x^{11}$

3 19-18:35

$x^{n-k} \cdot m_1(x) = q_1(x) \cdot p(x) + r_1(x)$

$x^{n-k} \cdot m_2(x) = q_2(x) \cdot p(x) + r_2(x)$

$x^{n-k} \cdot \boxed{(m_1(x) + m_2(x))} = (q_1(x) + q_2(x))\, p(x) + \boxed{r_1(x) + r_2(x)}$

3 19-18:54

$x^0:$ $x^3 : (1+x+x^3) = 1$ $1+x+0+x^3+0+0$

$x^3 + \boxed{x+1}$ $0+x+x^2+0+x^4+0$

$x^1:$ $x^4 : (1+x+x^3) = x$

$x^4 + \boxed{x^2+x}$

$x^2:$ $x^5 : (1+x+x^3) = x^2+1$

$x^5 + x^3 + \boxed{x^2}$

$x^3 + \boxed{x+1}$

$$G = \underbrace{\begin{pmatrix} P \\ I_k \end{pmatrix}}_{k} \Big\}\, n$$

$G : \mathbb{Z}_2^{n-k} \to \mathbb{Z}_2^n$

3 19-18:58

$$H = \underbrace{\begin{pmatrix} I_{n-k} & P \end{pmatrix}}_{n} \Big\}\, n-k$$

$$H = \begin{pmatrix} 1 & 0 & 0 & 1 & 0 & 1 \\ 0 & 1 & 0 & 1 & 1 & 1 \\ 0 & 0 & 1 & 0 & 1 & 1 \end{pmatrix}$$

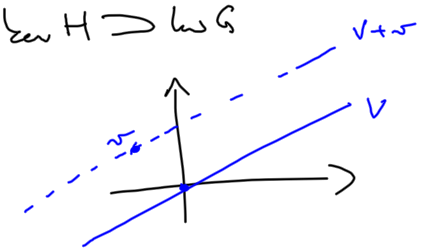
Ker H = Im G

$\mathbb{Z}_2^k \xrightarrow{G} \mathbb{Z}_2^n \xrightarrow{H} \mathbb{Z}_2^k$

3 19-19:08

$$H \cdot G = \left(I_{n-k} \; P \right) \cdot \begin{array}{c} \overbrace{\quad}^{k} \\ \begin{pmatrix} P \\ I_k \end{pmatrix} \end{array} \begin{array}{l} \} n-k \\ \\ \end{array} = P + P = 0$$

$$\ker H \supset \operatorname{Im} G$$



3 19-19:12