Lec 9/26

Tuesday, September 26, 2017 10:45

Polynomials over F: $F[X] \cong F_0^\infty$.

is a Vector Space endowed with commutative, and associative multiplication.

no inverses so $F[X]$ not a field

$F[X]$ is a commutative algebra

$\deg: F[X] \setminus \{0\} \longrightarrow \mathbb{N} \cup \{0\}$ (or $\deg 0 = -\infty$)

$\deg(P+Q) \leq \max\{\deg P, \deg Q\}$

$\deg(PQ) = \deg P + \deg Q$

$P, Q \neq 0 \Rightarrow PQ \neq 0$. (Ring w/o zero divisors)