1) Schlessinger: Functors of Artin rings

2) There is a transfer of functors

\[ \mathbb{E}/R \xrightarrow{R} \mathbb{R}/R \]

3) Some Tate algebras

\[ \text{Def}(A / \mathcal{L}) \cong \text{Def}(\hat{A} / \mathcal{L}) \]

e.g. \[ \mathbb{G}(X, \mathcal{O}_X) \]

Some Artin rings

\[ \text{Artin rings} \]

explained in some appendix by Drinfeld

Paper by Nick Katz

"Some Tate local modeli/parameters"

what would be a stack of genus one curves with a \( \mathcal{L} \)

\[ (E, 0) / F_p \]

\[ \text{Spec}(F_p) \]

stack of genus one curves

\[ \mathcal{M}_{1,1} \]

\[ \mathcal{M}_{1,1} x \]

a hull for the deformation problem to posed by the elliptic curve \( (E, 0) \)
If there is some thickening, factors

\[ \text{spec } O_{\mu, X} \]  

Mike Artin

Kab- Mazur then

Introduction

When they study the local str. of the moduli space locally at non-singular pt

Def th. comes in.

Deligne Mumford -> stacks.