

# Type Theory

Cloudifold

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# 0 Type Theories

**Definition 0.1.** A **typing declaration** is *symbols* of form  $x : A$ , we say that  $x$  is a **term** (of type  $A$ ) and  $A$  is the **type**.

A **context** is a *list of typing declarations* in which each term is different symbol

A **judgment** is symbols of the form  $\Gamma \vdash W$  where  $\Gamma$  is a *context*. A **rule** asserts that if some given *list of judgments* are valid, then so is another one of a specified form derived from them.

**Definition 0.2.** A **Type Theory** is determined by its collections of *types, judgments, and rules*. And A **Type Theory** must have following rules: