

Introduction to categories-II
Sarang Sane, IITM

We will study study Yoneda's lemma about representable functors and follow it up with some philosophy about the importance (particularly in topology) of a functor being representable (Brown representability theorem). We will introduce exact and abelian categories, and see the most common examples. We will then state the Freyd-Mitchell embedding theorem that tells us that the examples above are in some sense the only ones. Time permitting, we will start studying the category of chain complexes.

Pre-requisites :
Familiarity with basic category theory topics covered in the previous talk.