

## NOTES

DEVANSH TRIPATHI

ABSTRACT. This is the collection of various techniques that I encounter while doing math.

**For construction of injection.** If there exists a surjection from set  $A \rightarrow B$  then to construct injection from  $B \rightarrow A$ , for each  $b \in B$  there will exist at least a  $a \in A$  such that  $f(a) = b$  (because of surjection). Then take  $\min\{a \in A : f(a) = b\}$  and map  $b$  to that minimum element of  $A$ . This will result in an injection.