

Nov 28

$$Y \leq_p X$$

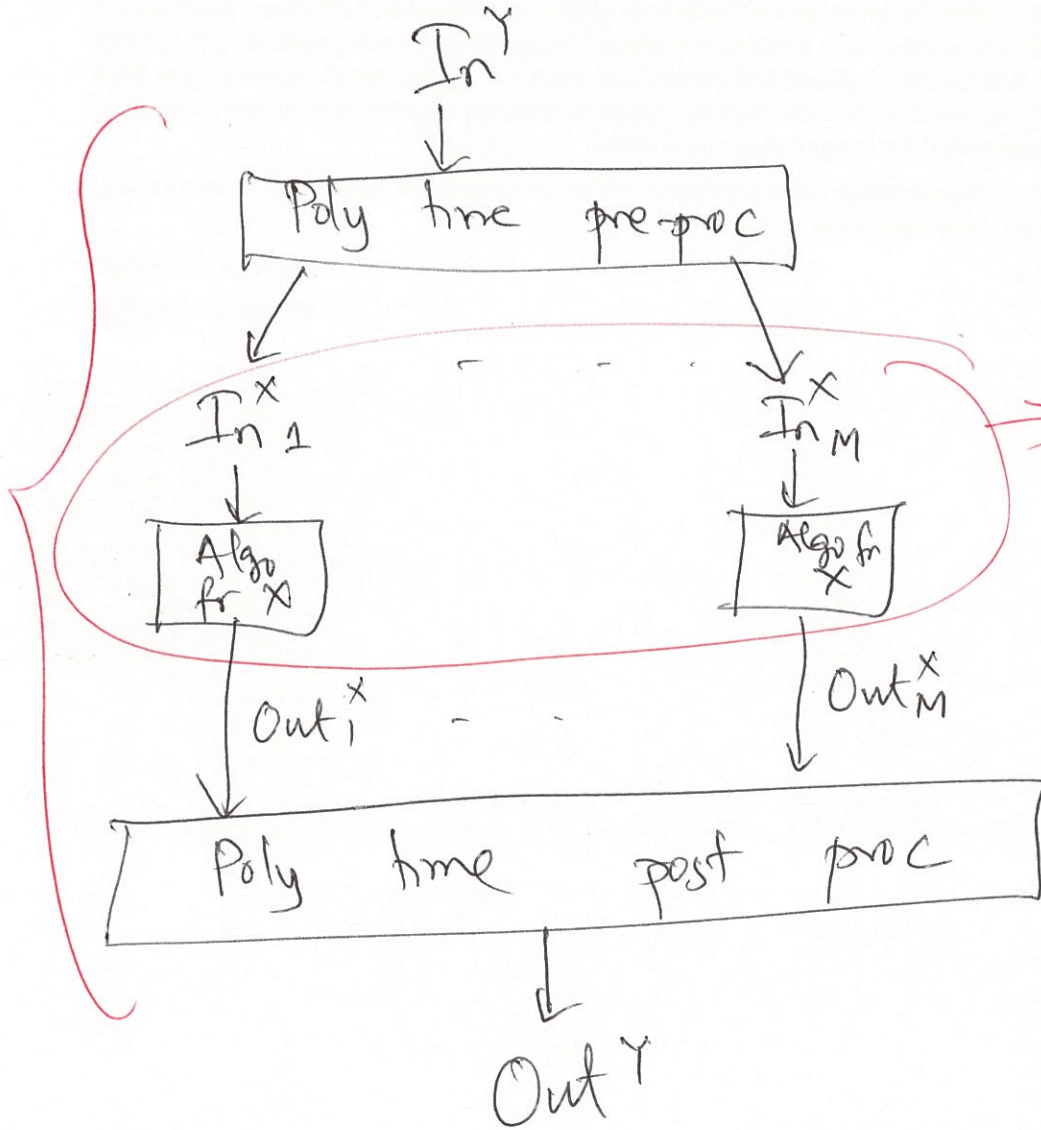
$\rightarrow$  Y is poly time reducible to X

$\equiv \exists$  a poly time reduce from Y to X

Solve:

$$In^Y \dots \rightarrow Out^Y$$

so for  
 $M=1$



$M = \text{poly}(N)$

Input size of Y  
 $= N$

Algo for X is poly time

$\Rightarrow$

$M \cdot \text{poly}(N)$   
 $= \text{poly}(N)$