$M'$                    $M$ nondet. TM

$C^{1\to 2}\ B^3\ M_d^{2,3}$            $M'$ det. TM
                                         s.t
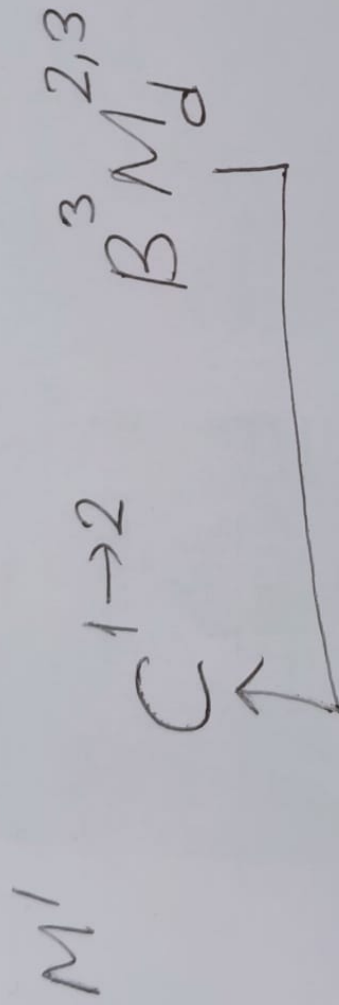$\underbrace{\qquad\qquad}$              $L(M) = L(M')$

$C^{1\to 2}$ : erases the 2. tape &
           copies the 1. tape on the second

$B^3$ : generates the next string on tape 3
                    (lexicographically)

$M_d^{2,3}$ : deterministic version of $M$,
           operating on tapes 2 & 3.