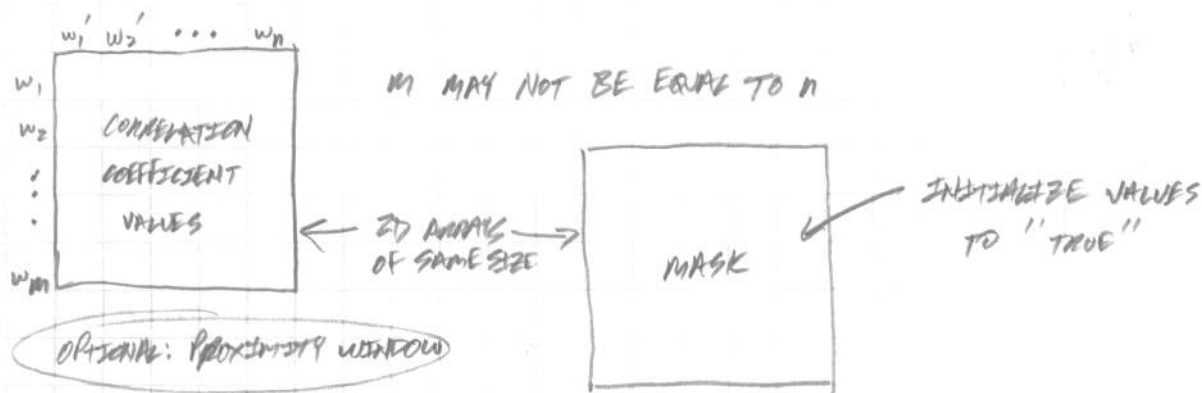


# FEATURE MATCHING

CALCULATE CORRELATION COEFFICIENT BETWEEN A GIVEN WINDOW IN IMAGE 1 AND ALL WINDOWS IN IMAGE 2. WINDOW ABOUT CORNER POINT

CORRELATION COEFFICIENT VALUE IS  $[-1, 1]$  (GREATER IS BETTER)



ONE-TO-ONE MATCHING (NOT ONE-TO-MANY)

1. FIND INDICES OF <sup>THE</sup> ELEMENT WITH MAXIMUM VALUE IN MASKED CORRELATION COEFFICIENT ARRAY. THIS IS THE BEST MATCH. (NOW CHECK IF IT IS UNIQUE ENOUGH)
  2. STORE BEST MATCH VALUE
  3. TEMPORARILY, SET THE VALUE OF THE ELEMENT IN THE CORRELATION COEFFICIENT ARRAY TO -1
  4. FIND NEXT BEST MATCH VALUE AS  
MAX (MAX VALUE IN SAME ROW AS ELEMENT, MAX VALUE IN SAME COLUMN OF ELEMENT) NOT MASKED
  5. SET THE VALUE OF THE ELEMENT BACK TO ITS ORIGINAL VALUE
  6. IF  $(1 - \text{BEST MATCH VALUE}) < (1 - \text{NEXT BEST MATCH VALUE}) * \text{DISTANCE RATIO THRESHOLD}$   
STORE FEATURE MATCH  
(ELSE, MATCH IS NOT UNIQUE ENOUGH)
  7. IN MASK ARRAY, SET ROW AND COLUMN CORRESPONDING TO BEST MATCH TO FALSE
- ⊙ REPEAT UNTIL SIMILARITY THRESHOLD  $\geq$  MAXIMUM VALUE IN MASKED CORRELATION COEFFICIENT ARRAY (DETERMINED IN STEP 1)

$[-1, 1] \mapsto [2, 0]$   
CORRELATION COEFFICIENT VALUE "DISTANCE"