

MERGE SORTED ARRAY

num1

[1, 2, 3, 0, 0, 0]

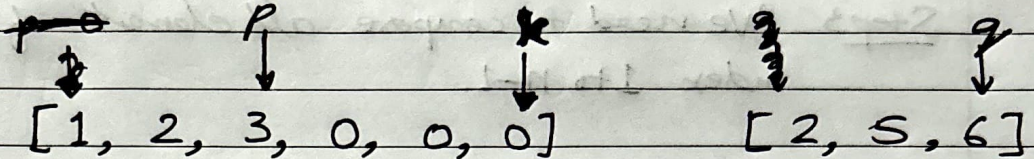
m = 3

num2

[2, 5, 6]

n = 3

As we need to fill this up

Step 1 → 3 pointers (reverse pointer approach)Step 2 $p = m - 1$ $q = n - 1$ $k = m + n - 1$ Step 3

if `num1[p] > num2[q]` → `num1[k] = num1[p]`
 $p--; k--;$

Step 4

else `num1[k] = num2[q]`;
 $q--; k--;$

Overall inside while ($p \geq 0 \& \& q \geq 0$)Step 5

Possibility if `num1` has larger values then
 p is still ≥ 0 or $q \geq 0$

Step 6

while ($p \geq 0$) → `num1[k] = num1[p]`
 $p--; k--;$

Step 7

while ($q \geq 0$) → `num1[k] = num2[q]`;
 $q--; k--;$