

0 1 2 3 4

0, 1, 0, 3, 12  
 $\hookrightarrow 1, 3, 12, 0, 0$

Move nonzero to the front to guarantee same order, other zeros will end up in the end  
 $\text{insert} := 0$

0)  $0 \rightarrow \text{skip}$

1)  $1 \neq 0 \Rightarrow N[\text{insert}] = 1 \rightarrow N[0] = 1, \text{insert} = 1$   $1, 1, 0, 3, 12$

2)  $0 \rightarrow \text{skip}$

3)  $3 \neq 0 \Rightarrow N[1] = 3, \text{insert} = 2$

$1, 3, 0, 3, 12$

4)  $12 \neq 0 \Rightarrow N[2] = 12, \text{insert} = 3$

$1, 3, 12, 0, 0$

for  $\text{insert} = 3 \rightarrow \text{end}$  force  $\rightarrow 0$

$\Rightarrow 1, 3, 12, 0, 0$