

0 1 2 3 4
 0, 1, 0, 3, 12
 \rightarrow 1, 3, 12, 0, 0

Move non zero to the front to guarantee same order, then zero's will end up in the end
 insert := 0

0) 0 \rightarrow skip

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

2) 0 \rightarrow skip

3) $3 \neq 0 \Rightarrow N[1] = 3$, insert = 2 1, 3, 0, 3, 12

4) $12 \neq 0 \rightarrow N[2] = 12$, insert = 3 1, 3, 12, 3, 12

for insert \rightarrow end force to 0
 \Rightarrow 1, 3, 12, 0, 0