

Double a no in linked list  $\rightarrow$ 

ex ①  $\rightarrow$   $1 \rightarrow 8 \rightarrow 9 \rightarrow x$   
 $2 \rightarrow 7 \rightarrow 8 \rightarrow x$

$$\begin{array}{r} 189 \\ \times 2 \\ \hline 378 \end{array}$$

ex ②  $\rightarrow$   $9 \rightarrow 9 \rightarrow 9 \rightarrow x$   
 $1 \rightarrow 9 \rightarrow 9 \rightarrow 8 \rightarrow x$

$$\begin{array}{r} 999 \\ \times 2 \\ \hline 1998 \end{array}$$

Algo  $\rightarrow$

$1 \rightarrow 8 \rightarrow 9 \rightarrow x$   
 $\uparrow$  head

②-1  $\rightarrow$  Use Recursion to access from R  $\rightarrow$  L

int prod = head  $\rightarrow$  val  $\times$  2 + carry

head  $\rightarrow$  val = prod  $\% 10$ ;

carry = prod  $/ 10$

ex  $\rightarrow$   $9 \rightarrow 9 \rightarrow 9 \rightarrow x$   
 $\uparrow$  h

①  $\rightarrow$  prod =  $9 \times 2 + 0 = 18$   
 head  $\rightarrow$  val =  $18 \% 10 = 8$   
 carry = 1

$\textcircled{89} \rightarrow 9 \rightarrow \overset{\nwarrow h}{9} \rightarrow 8 \rightarrow x$

$$\text{prod} = 9 \times 2 + 1 = 19$$

$$\text{head} \rightarrow \text{val} = 19 \cdot 10 = 190$$

$$\text{carry} = 1$$

$\textcircled{191} \rightarrow 9 \rightarrow \overset{\nwarrow h}{9} \rightarrow 8 \rightarrow x$

$$\text{prod} = 9 \times 2 + 1 = 19$$

$$h \rightarrow \text{val} = 190 \cdot 10 = 1900$$

$$\text{carry} = 1$$

$\textcircled{191} \rightarrow 9 \rightarrow 9 \rightarrow 8 \rightarrow x$

carry beha hai

$$\text{if } (c_1 = 0)$$

insert At head (carry)