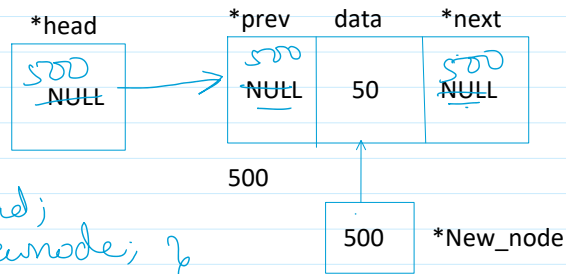


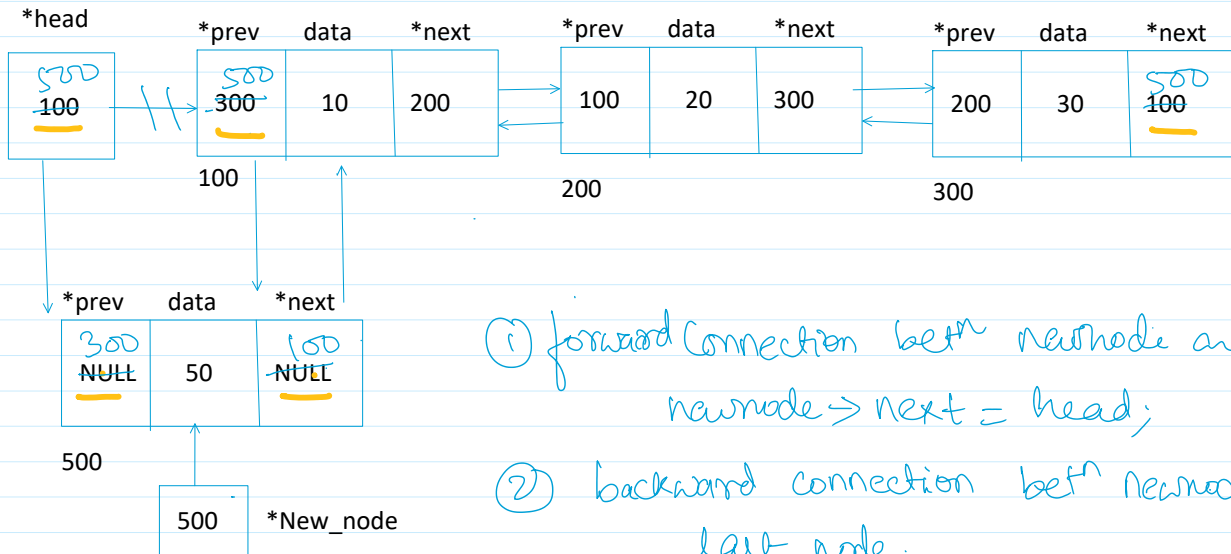
① Create node.

② Attach.

a) $\text{if } (\text{head} == \text{NULL})$
 $\{ \text{head} = \text{Newnode};$
 $\text{newnode} \rightarrow \text{next} = \text{head};$
 $\text{newnode} \rightarrow \text{prev} = \text{newnode}; \}$



b)



① forward Connection betⁿ newnode and 1st node
 $\text{newnode} \rightarrow \text{next} = \text{head};$

② backward connection betⁿ newnode and last node.
 $\text{newnode} \rightarrow \text{prev} = \text{head} \rightarrow \text{prev};$

③ forward connection betⁿ last node and newnode.

$300 \rightarrow \text{next} = \text{newnode}.$
 $100 \rightarrow \text{prev}$
 $\text{head} \rightarrow \text{prev} \rightarrow \text{next} = \text{newnode};$

④ backward Connection betⁿ 1st node and newnode.

$\text{head} \rightarrow \text{prev} = \text{newnode}.$

⑤ update the head pointer
 $\text{head} = \text{newnode}.$