

1) memory efficient.

Insert-front (head, data)

node new = new node()

new → data = data

new → ptrdiff = head

if (head != NULL)

head → ptrdiff = head → ptrdiff XOR new

head = new

return head;

Insert-end (head, data)

node new = new node()

new → data = data

if (head == NULL)

new → ptrdiff = NULL

return new.

temp = head, prev = NULL

while (temp != NULL)

next = prev XOR temp → ptrdiff.

prev = temp

temp = next

prev → ptrdiff = prev → ptrdiff XOR new

new → ptrdiff = prev

return head