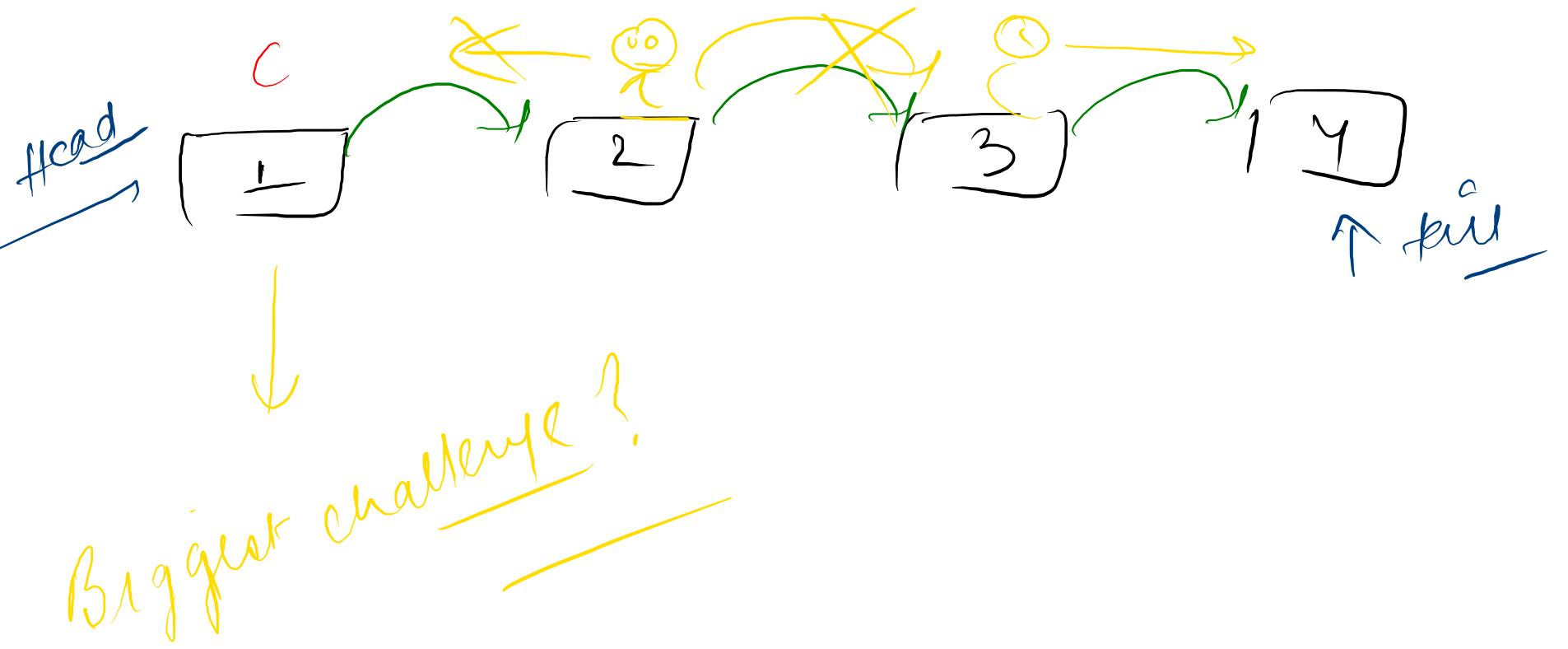
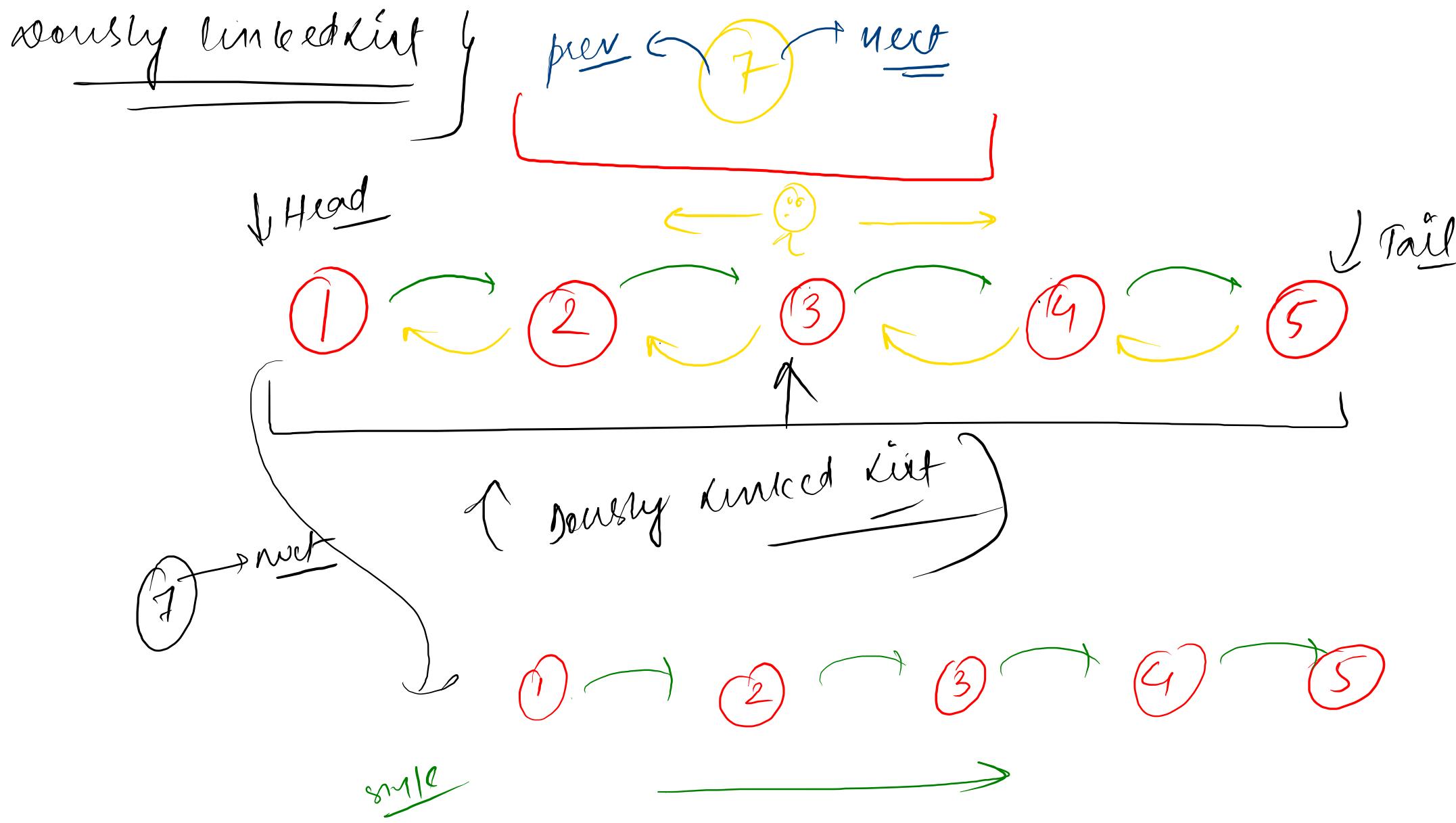
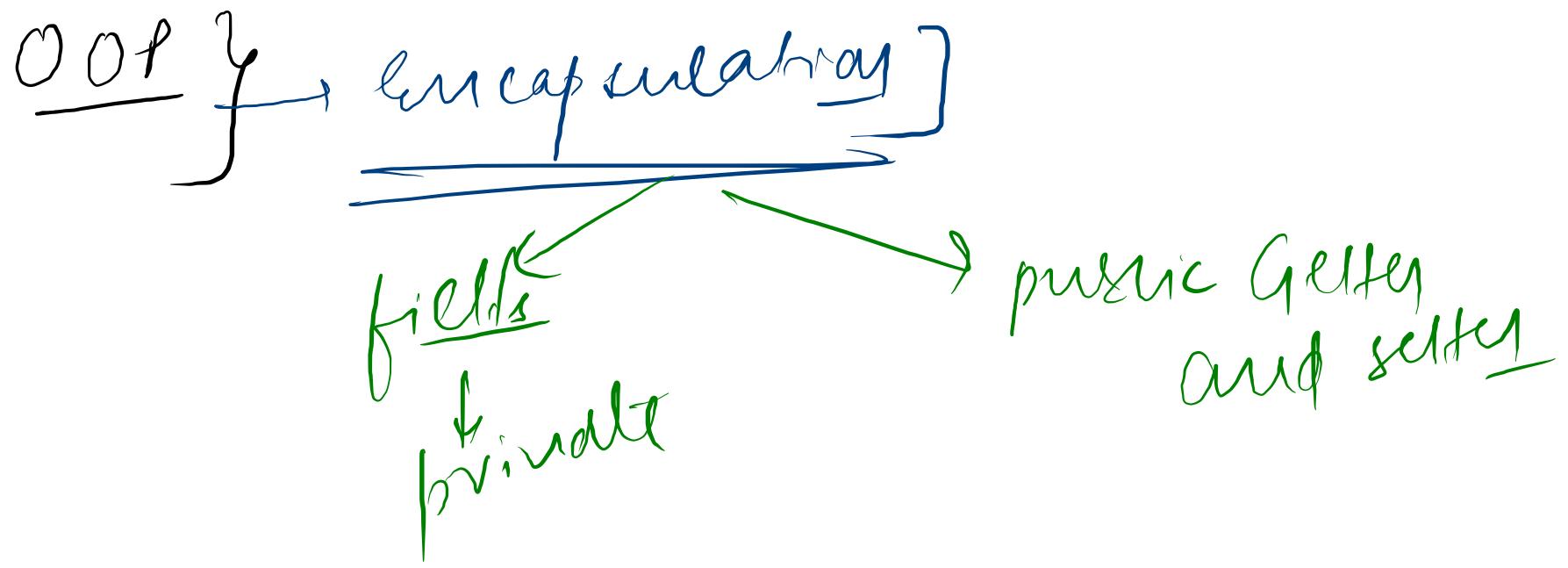


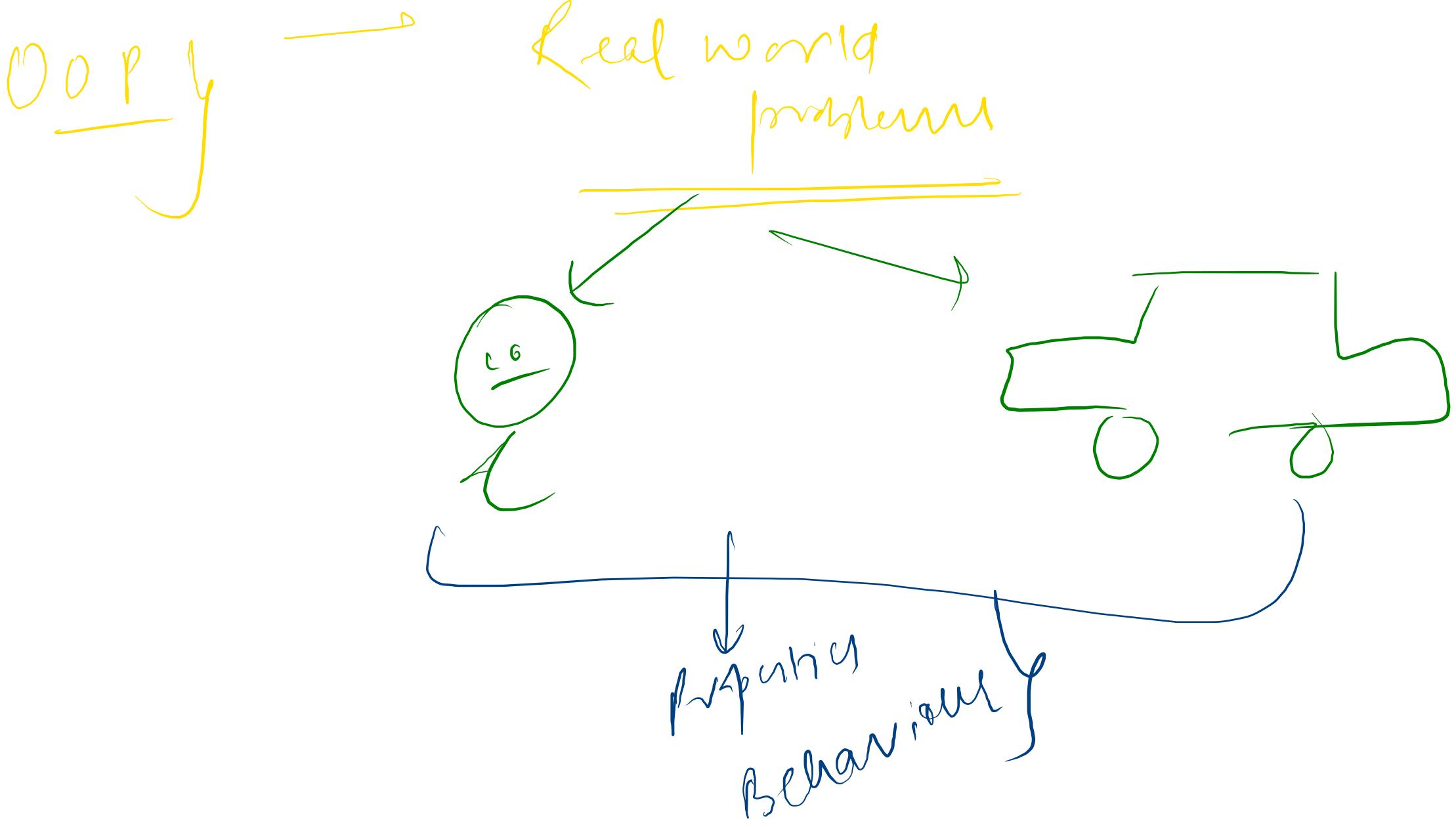
Linked List
Data Structure

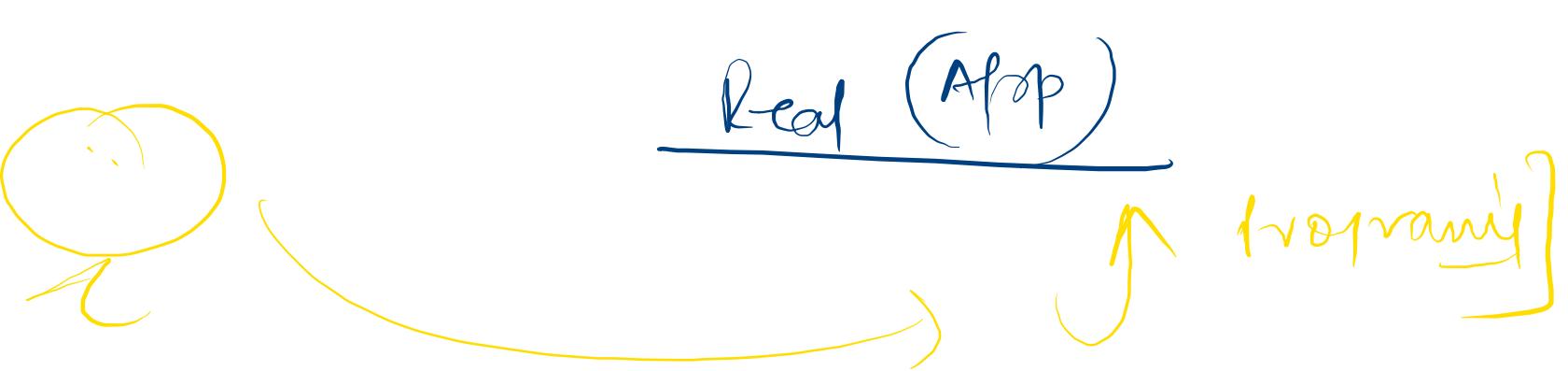


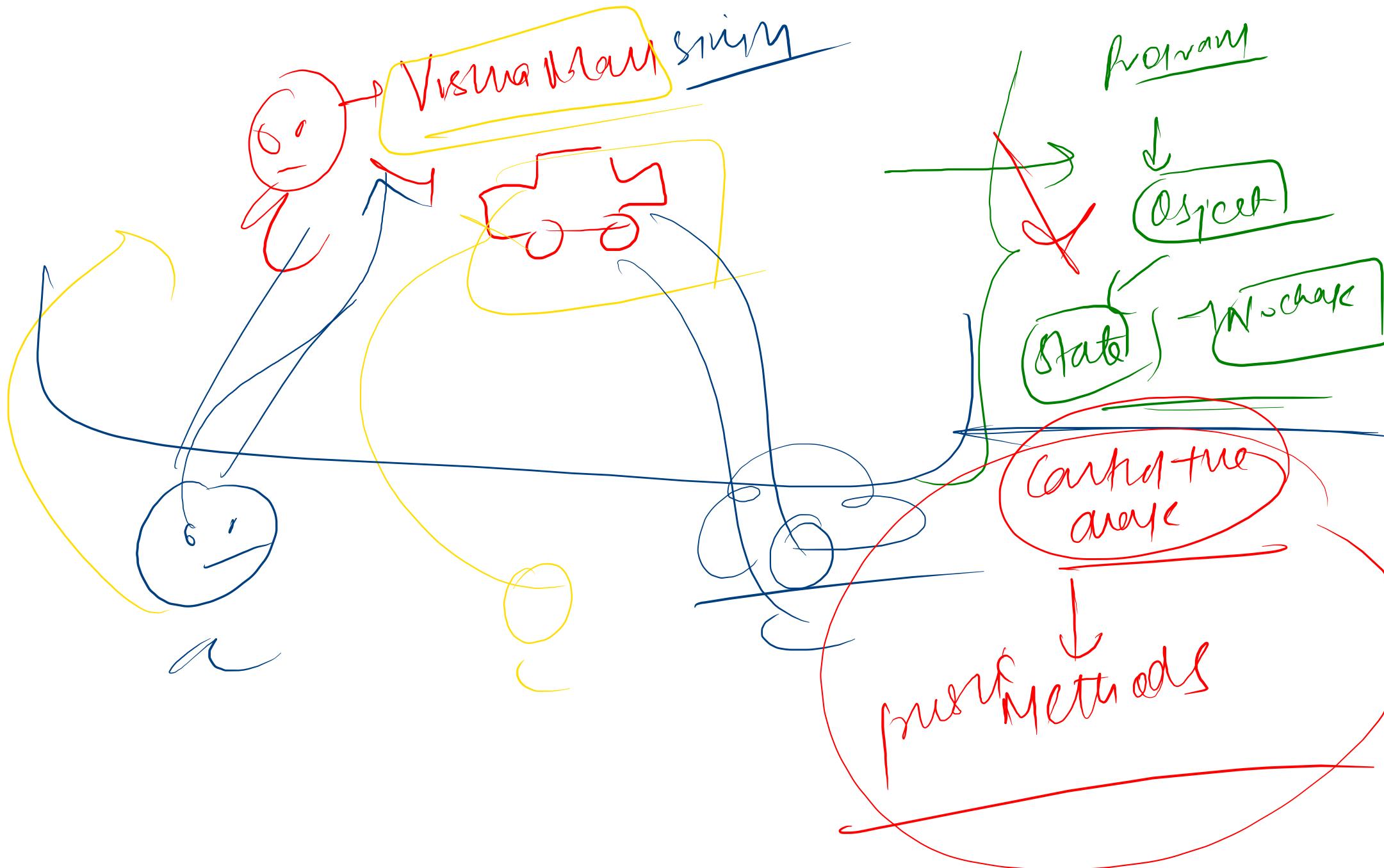






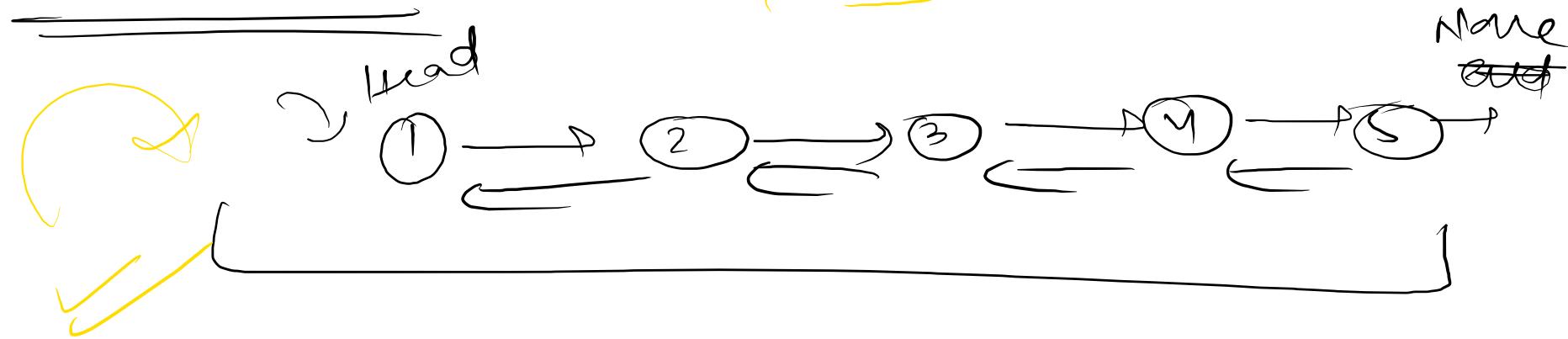




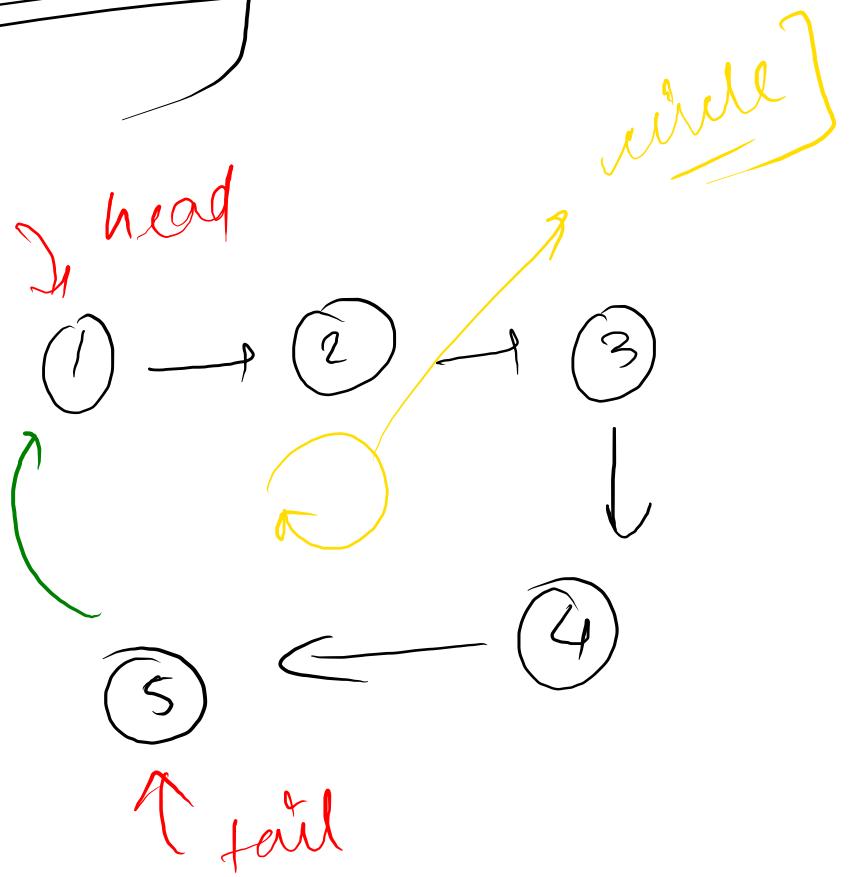


Create a linkedlist

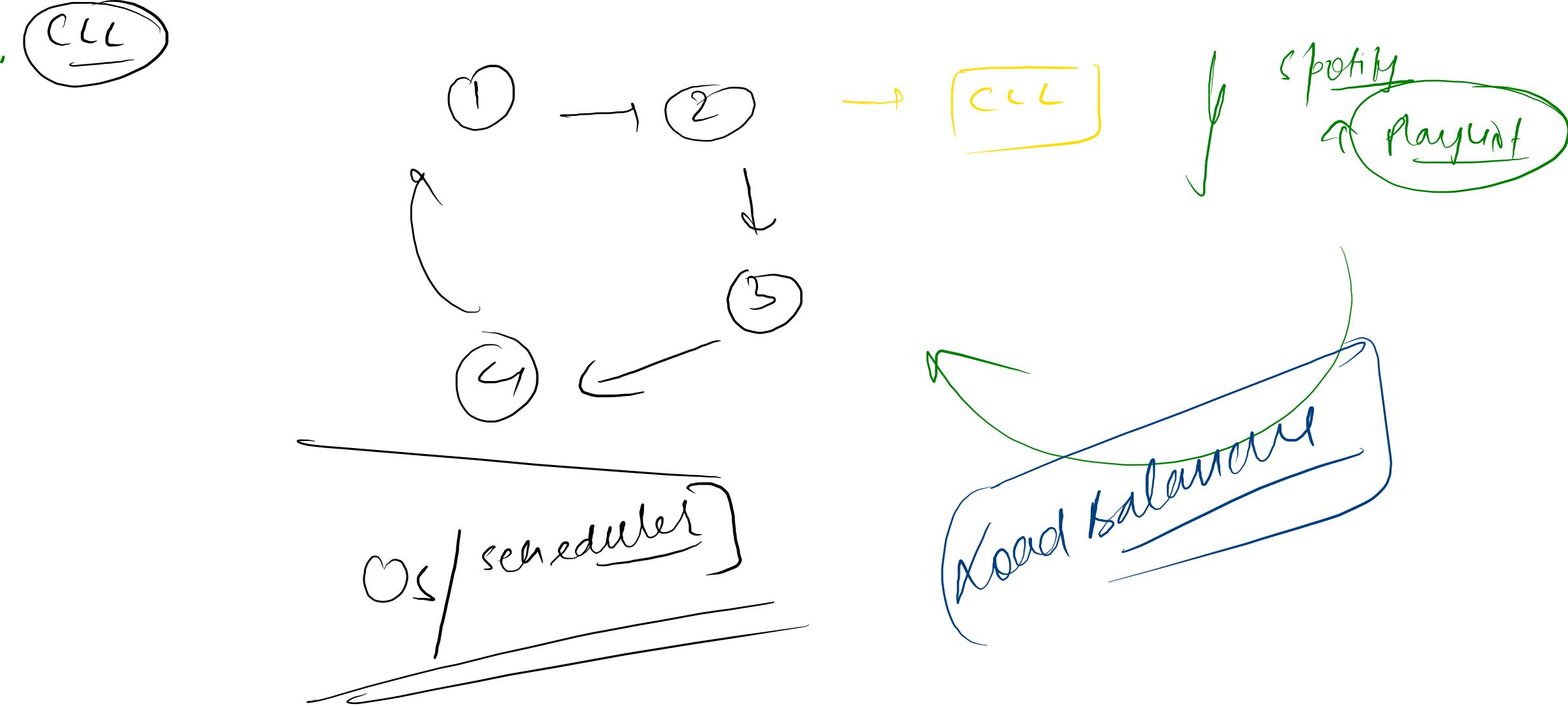
↙ [Node] ← class

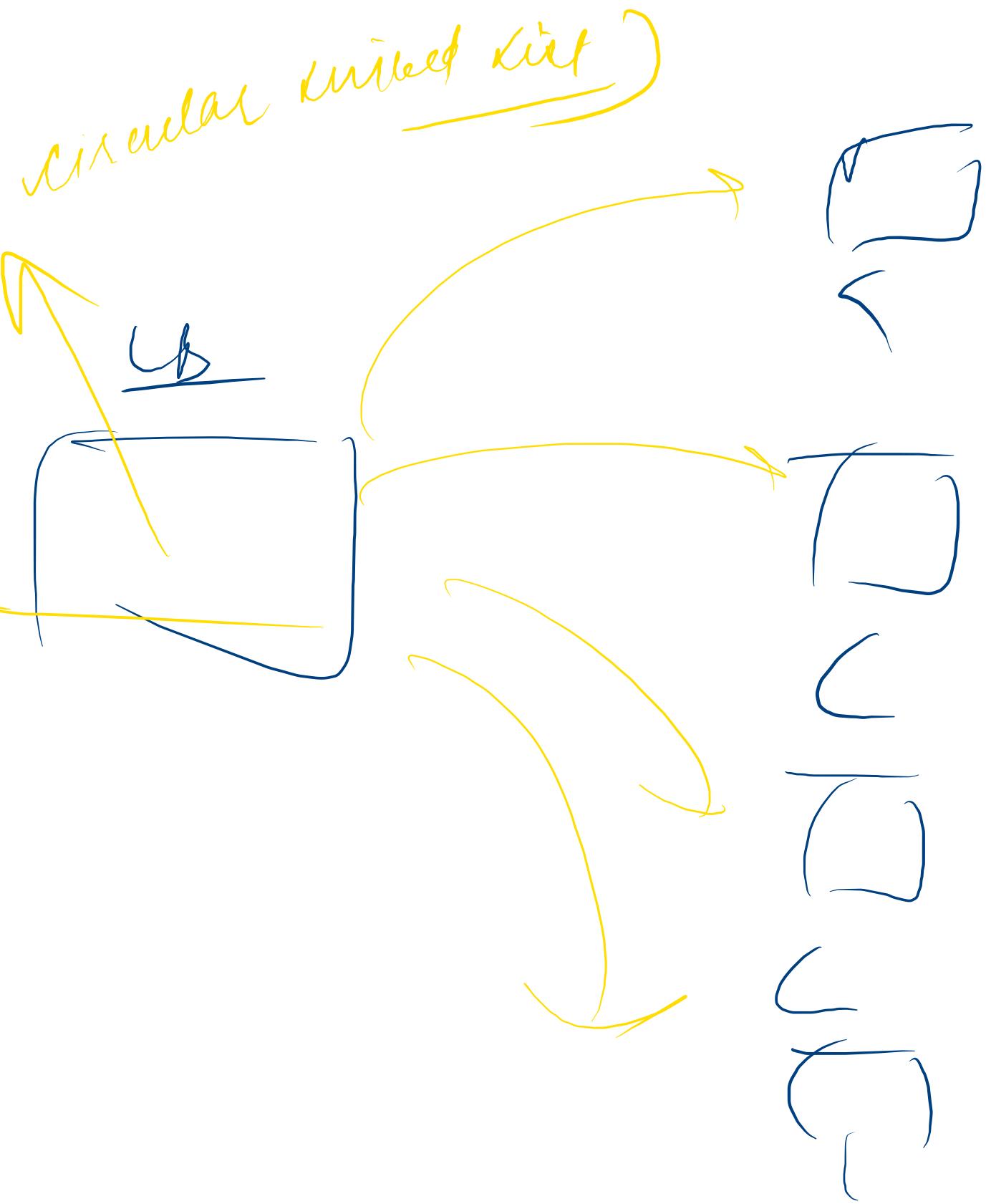


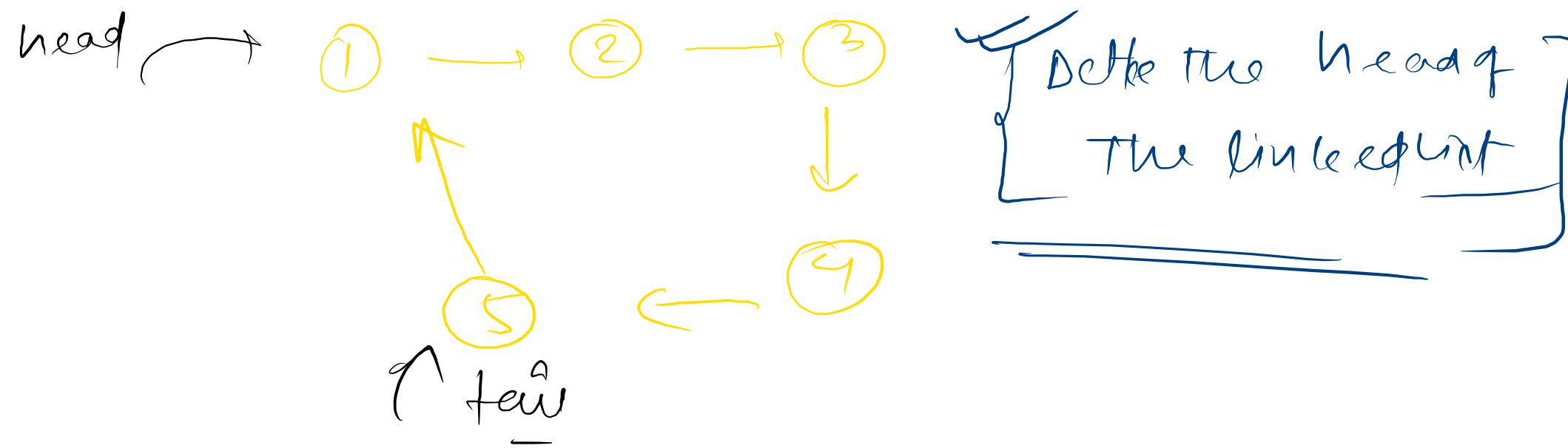
Circular linked list

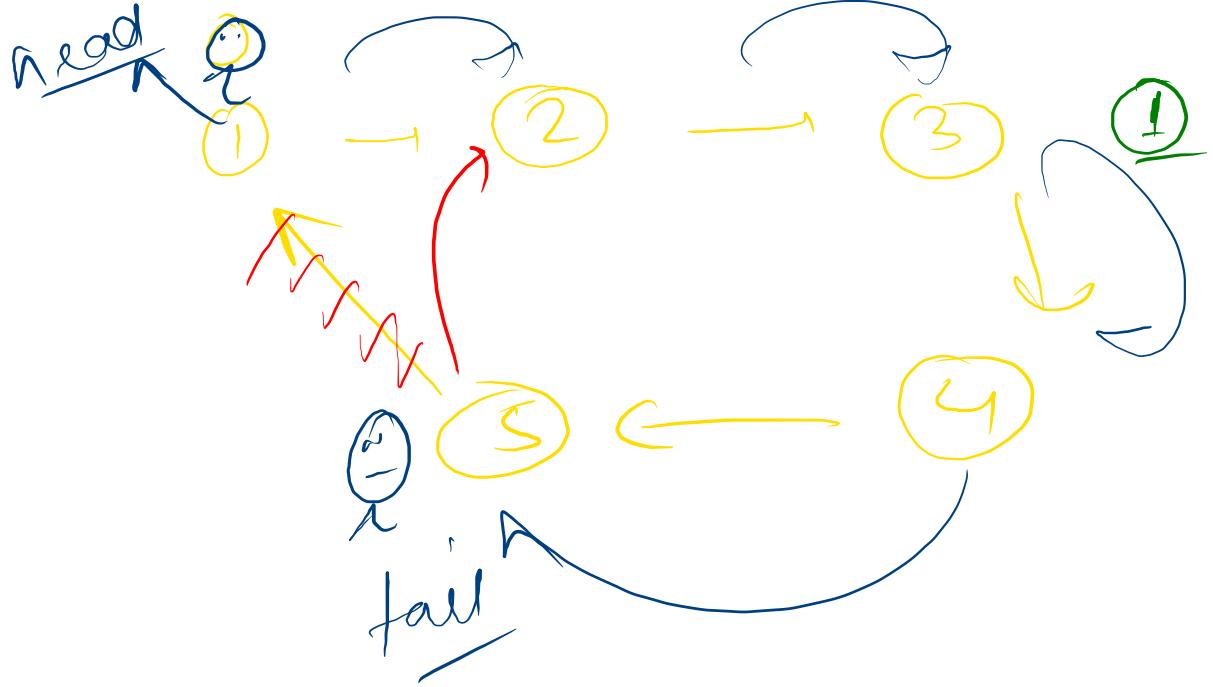


Single linked where
tail is connected to
the head





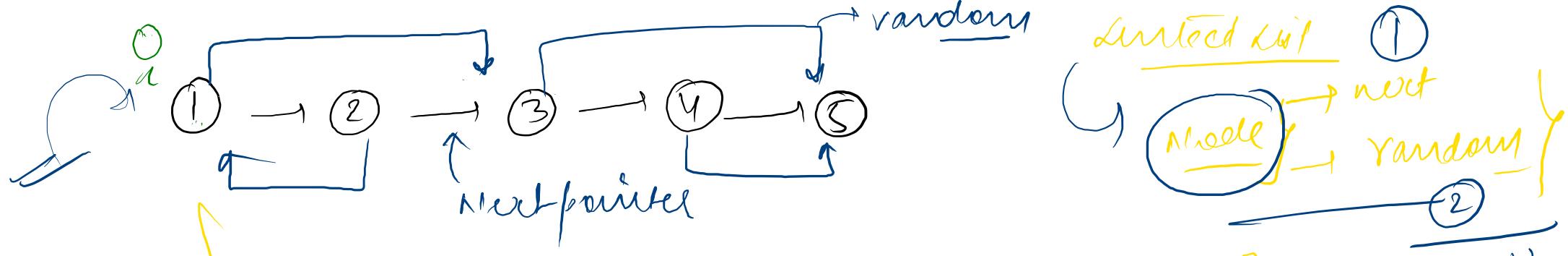




① jump to the tail

② tail → headNext

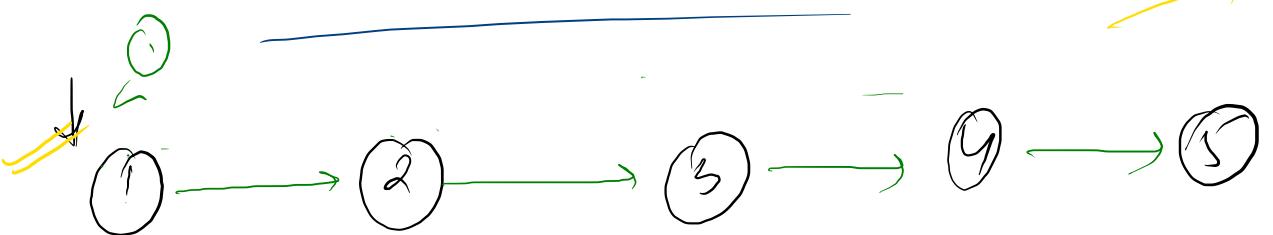
③ headNext is the new head



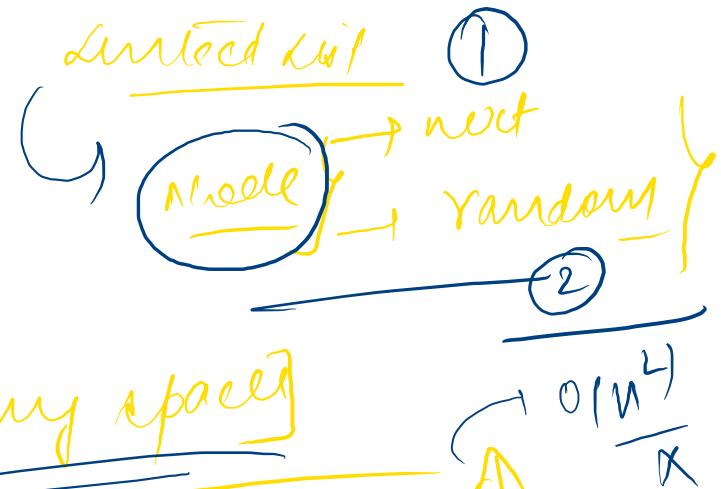
9'36

clone [copy]

w/o using any space



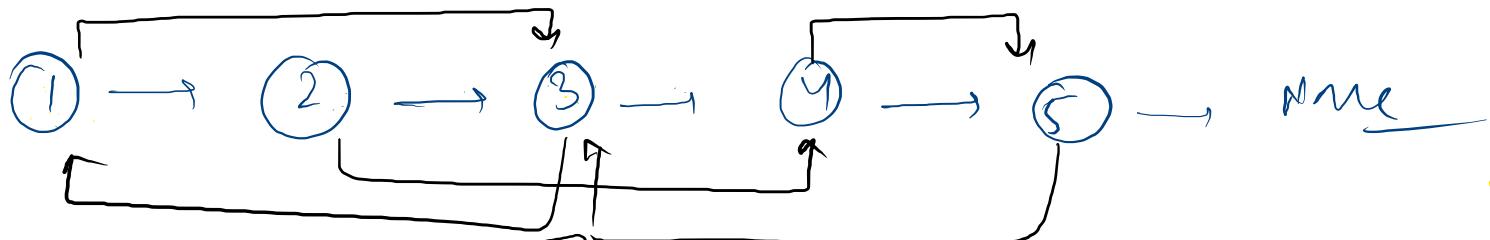
$\frac{O(n^2)}{\cancel{x}}$
 $O(n)$
time
complex



$\frac{O(n^2)}{\cancel{x}}$
 $O(1)$
 $\frac{\cancel{O(n^2)}}{\cancel{x}}$
 $O(n)$

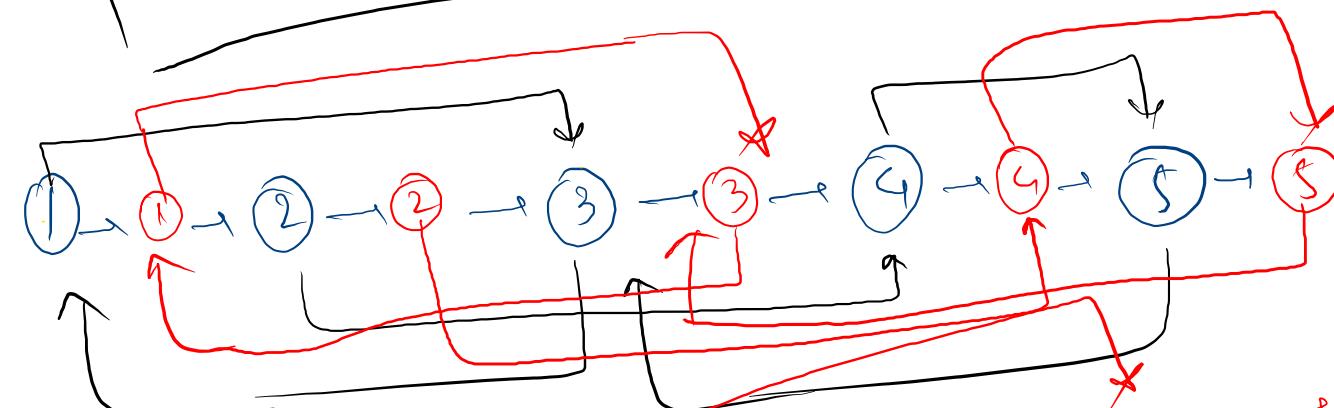
Random

early step 1



meet the
done of each
node next to each

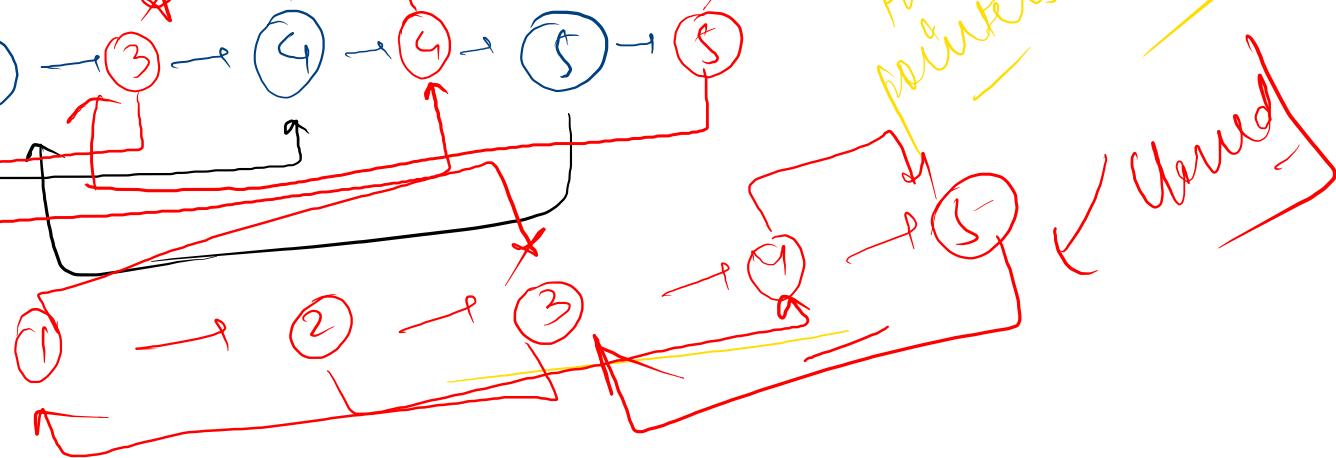
Step 2



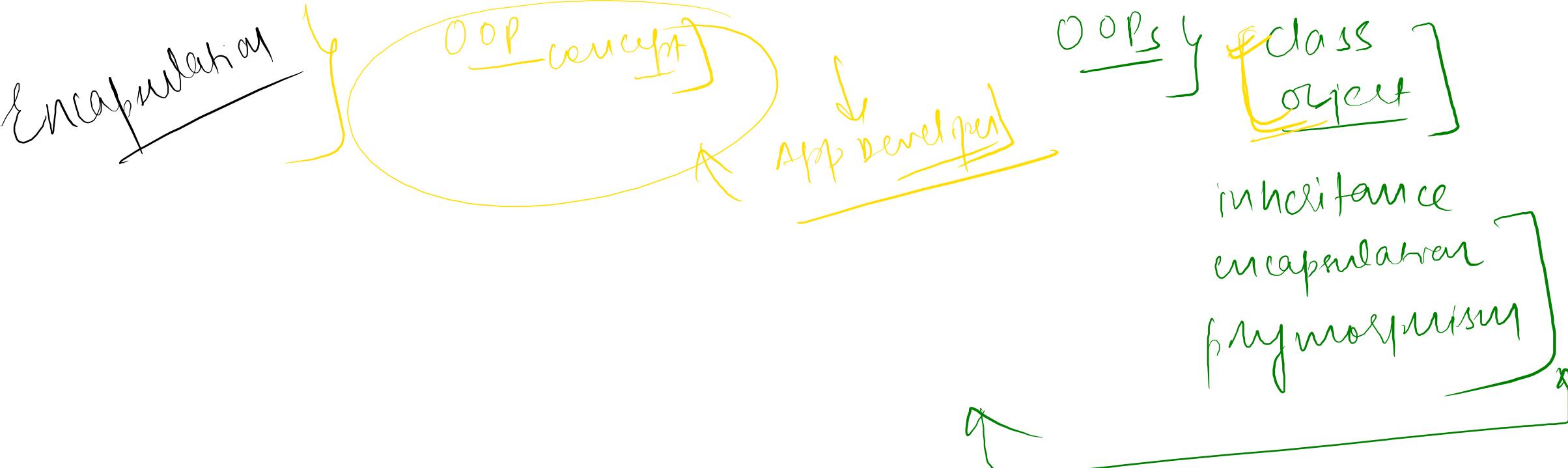
copied
the random
pointers

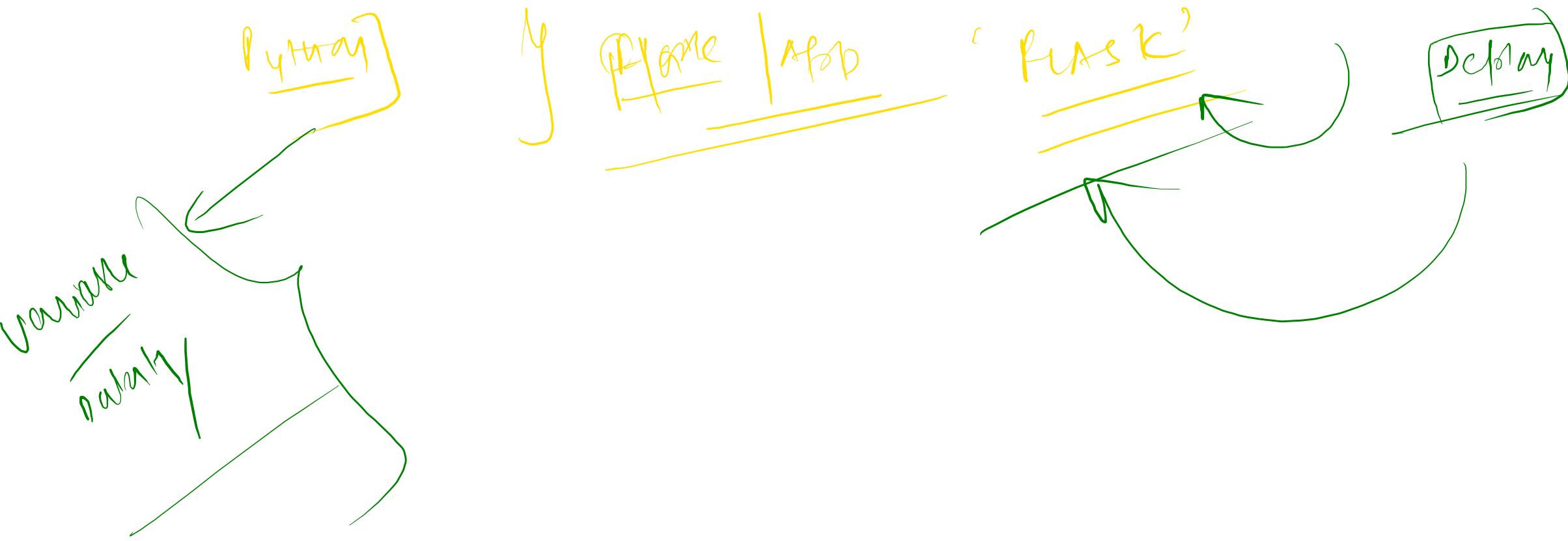
failure not found

step 3



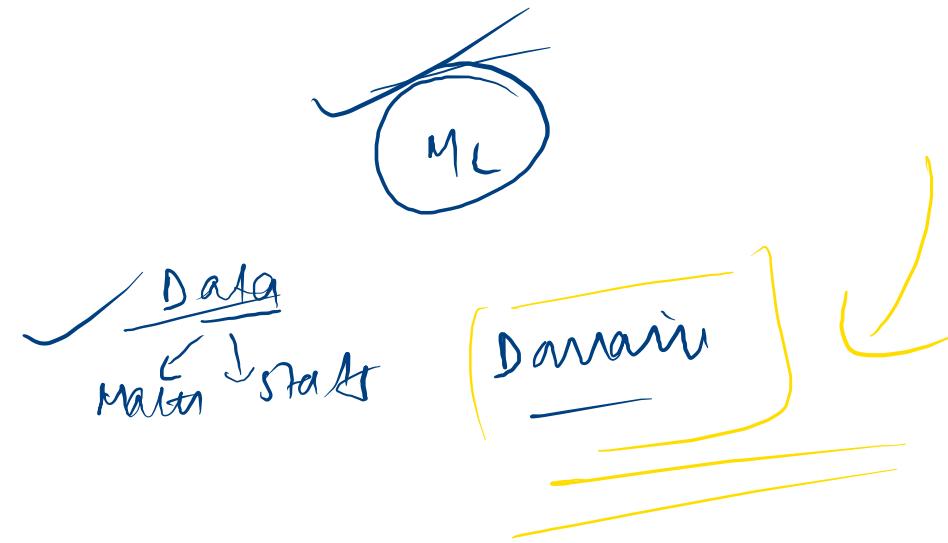
closed

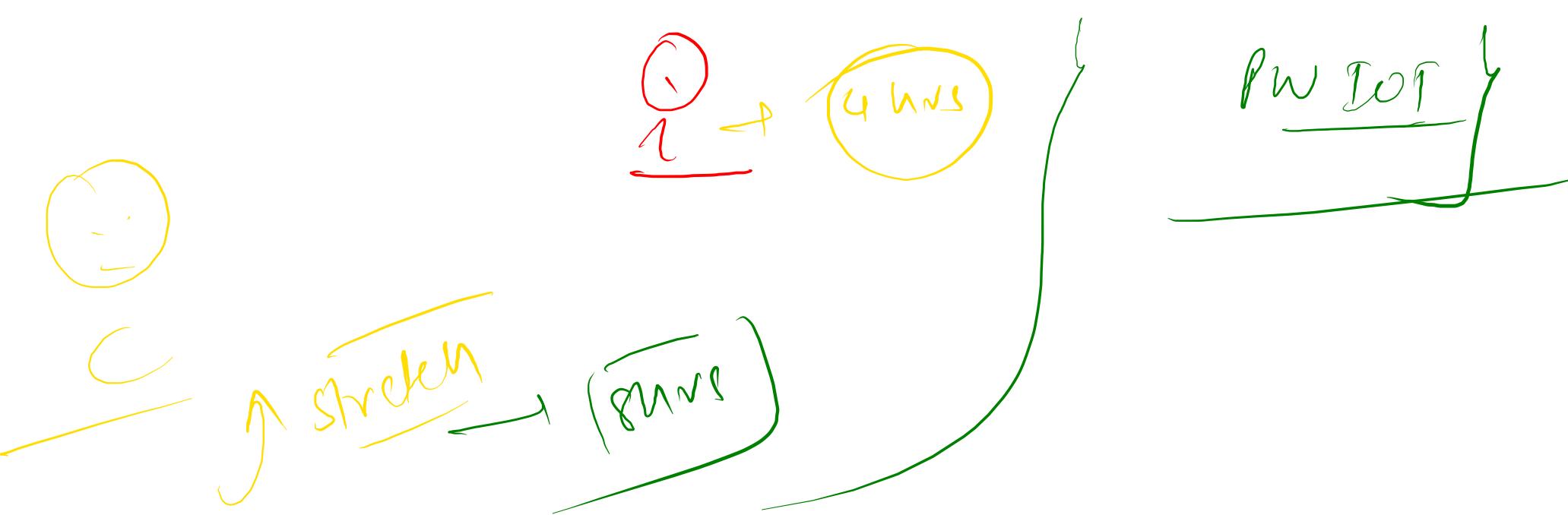


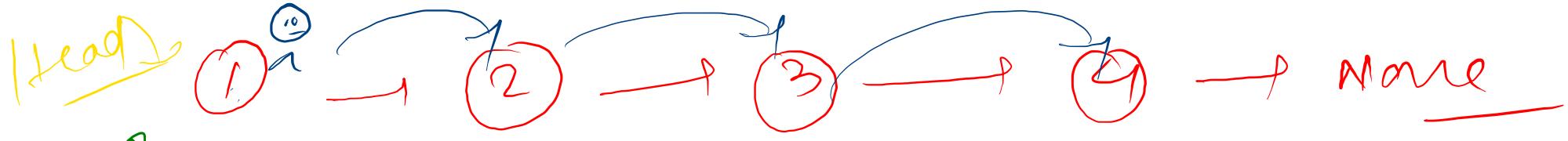




Manufacturing







clone

→ cloned ll

