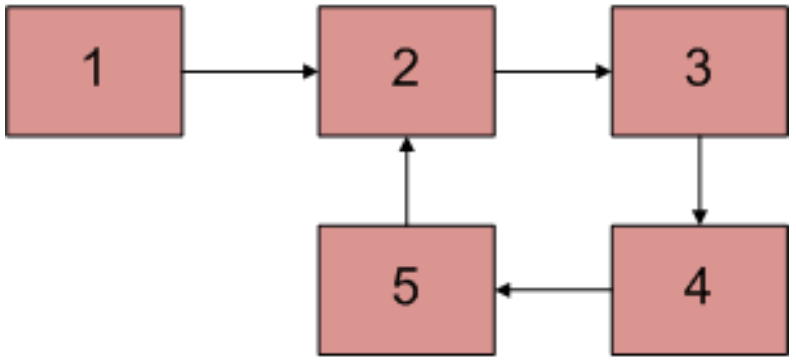
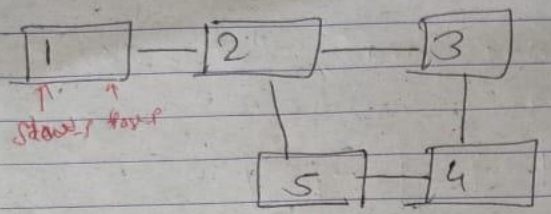
Find First Node In A loop

Step-1 Check Loop Exist or not
Step 2-if not exist then return null
Step-3 if exist then ,initialize a slow pointer to head ,fast ba at its position
Step -4 Move both pointer alow and fast one node at a time
Step 5- meeting point of both pointer is the start of the loop (i.e.first node in a loop)
Step 6:let’s enjoy

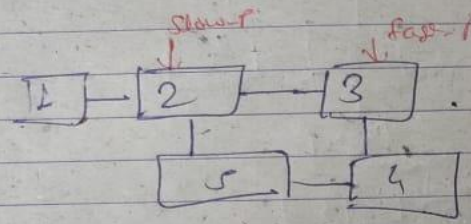


Loop checking

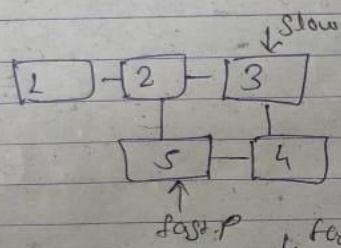
Step-1



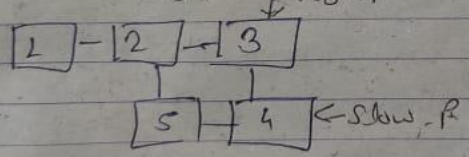
Step-2



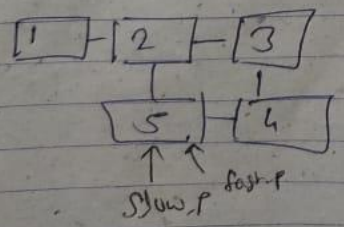
Step-3



Step-4



Step-5

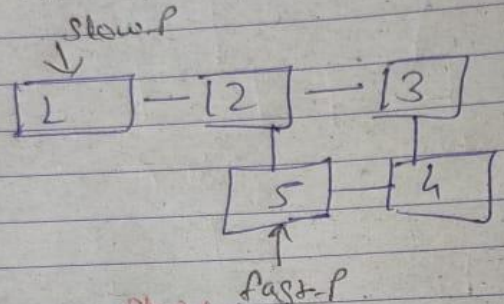


both pointer ~~meet~~ point same node so loop exist.

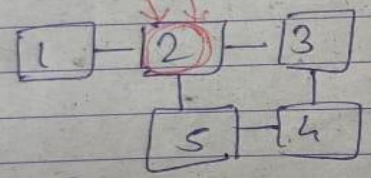
Step-2

now, slow_p = head, fast_p = fast_p

Step-1



Step-2



So, 2 is a first node in a linked list

Check Loop Exist or not:

Floy’d Cycle-Finding Alogrithm-Fatsest Method

Step -1 : Traverse linked list using Two Pointers

Step-2: Move Fast pointer by two node at a time & slow pointer by one pointer at a time

Step 3: if they meet at the same node then loop exist otherwise loop not exist