* Find the Duplicate Number

(1, 3, 4, 2, 2)

(-1, 3, 4, 2, 2)

(-1, 3, -4, 2, 2)

(-1, 3, -4, -2, 2)

(-1, -3, -4, -2, 2) ∴ 2 is the duplicated.

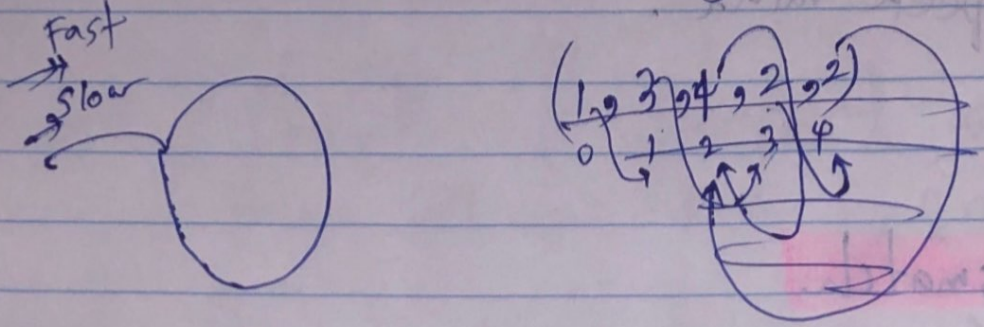
(2, 2, 2, 2, 2)

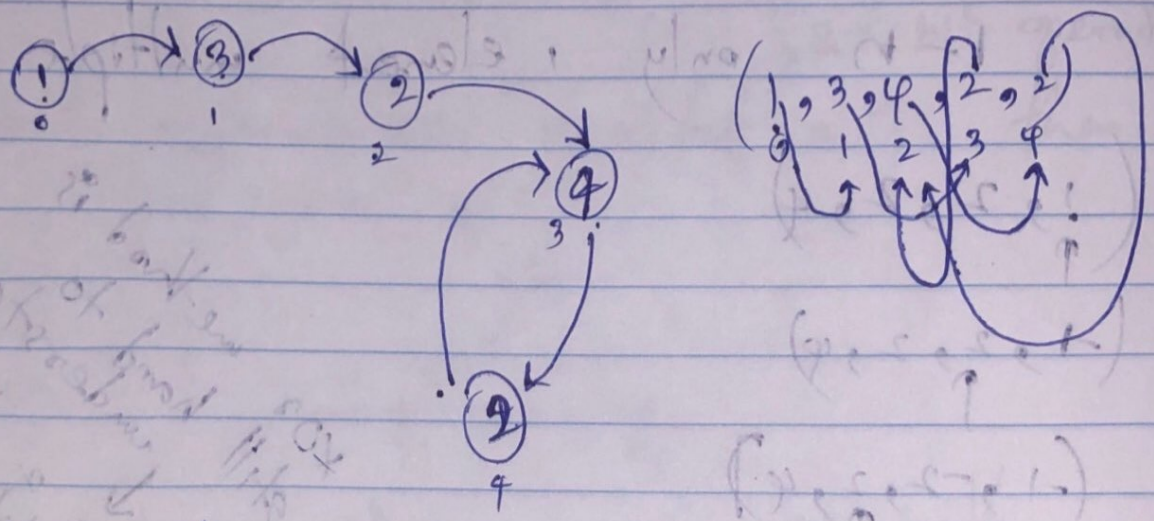
(2, 2, 2, 2, 2)

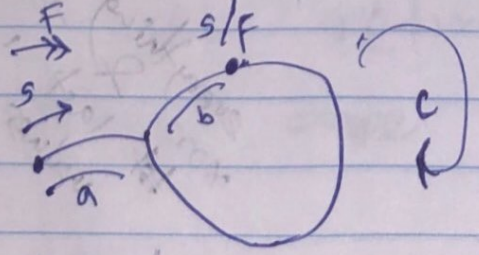
→ value

∴ 2 is the duplicated

• Floyd's cycle detection algorithm.



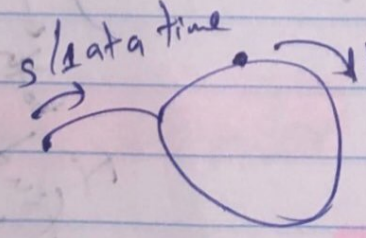


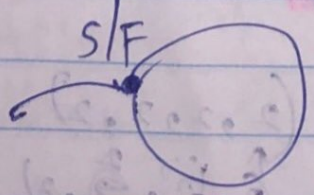


$2(a+b) = a + 2c + b$

$a + b = c$

$\boxed{c - b = a}$





meet at this point.