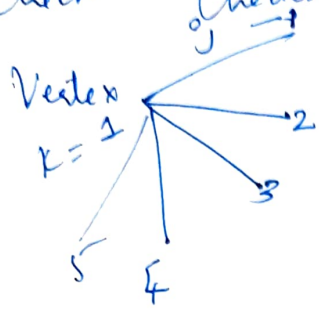
finding color for vertex 1

mcoloring (1) ⟶ NextValue [1] → x[1] = (0+1) mod (3+1)

= 1 mod 4

x[k] → x[1] = 1

Check. Checking adjacency. (refer matrix).



1 — 1 (Edge b/w 1 → 1 - no → value = 0)

1 — 2 → 1 (Check if both have same color?)

1 — 3 — 1

1 — 4 — 1

0 - value of color.

(x[k] = 1.

x[1] = 0

no color

Condition false)

∴ algorithm will send x[k] = 1.

Coz none of the color matches as initially they are set at value 0.

∴

x[1]	x[2]	x[3]	x[4]	x[5]
1	0	0	0	0
1	2			

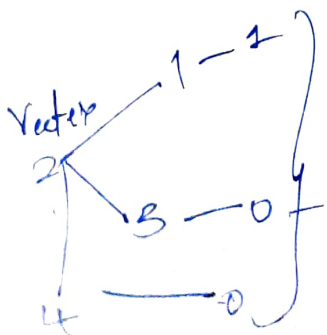
k = 2

Sending value k = 2 to mcoloring(2) algm

mcoloring (2) ⟶ NextValue (2)

x[2] = (0+1) mod 4 = 1

but 1 is already assigned to Vertex 1.



Color assigned to 3 will be 3. as 2 is not assigned to it or adjacent ones of 1 & 3 by this way algm will run.