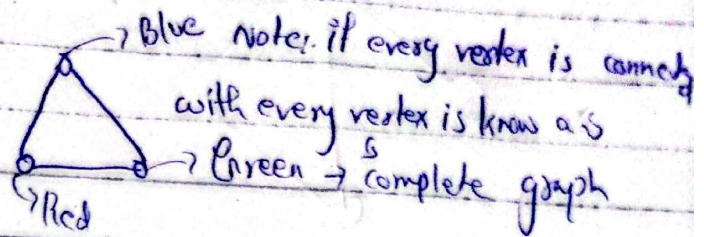
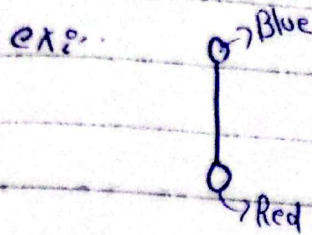


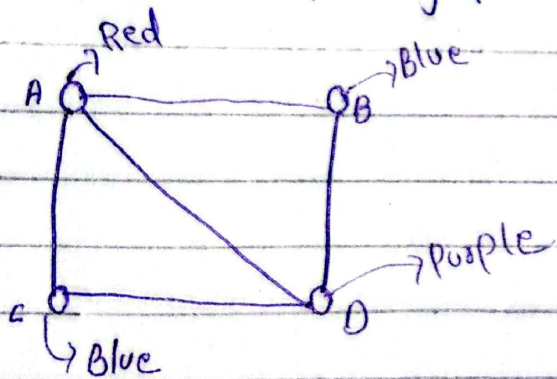
→ Graph Coloring: Painting all the vertices of a graph with colors such that no two adjacent vertices have the same color is called coloring of graph.



means no two adjacent vertex have the same color.

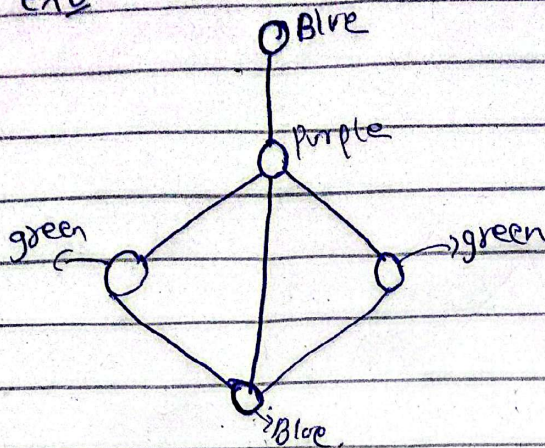
Note: Yes, the chromatic number of a complete graph with n vertices is equal to n .

ex: 2: without complete graph: or non complete graph:



Note: B and C are not adjacent with each other hence we can assign the same color to both.

→ ex 3

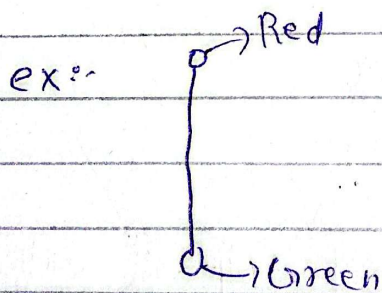


so here total number of colors is here 3.

~~so here 3 chromatic number~~

→ chromatic Numbers

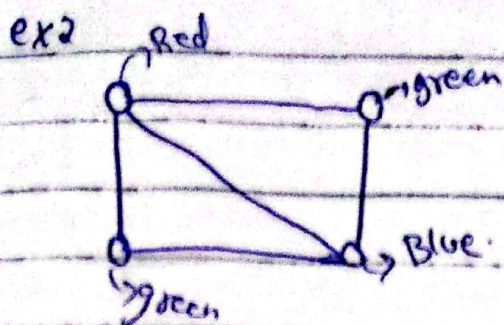
The least number of colors required for coloring of a graph G is called its chromatic Number.



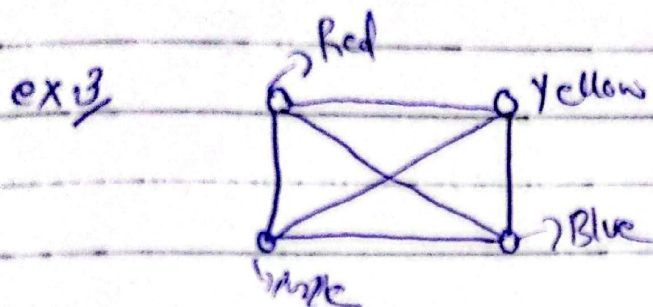
Note: these two vertices are adjacent with each other hence we used different colors.

so we have use two colors hence

chromatic Number is 2.



so here chromatic Number is 3.



→ complete graph.

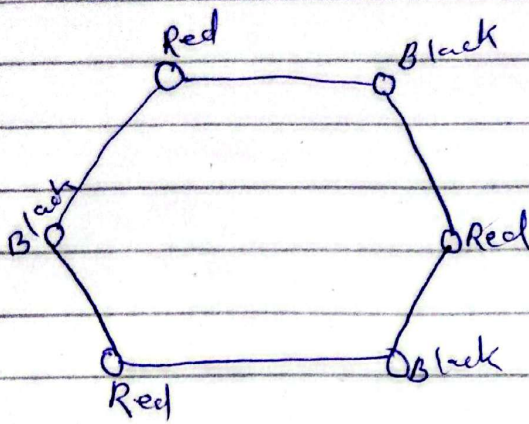
so chromatic number is 4.

same as vertices

→ Notes chromatic Number of null graph is 1

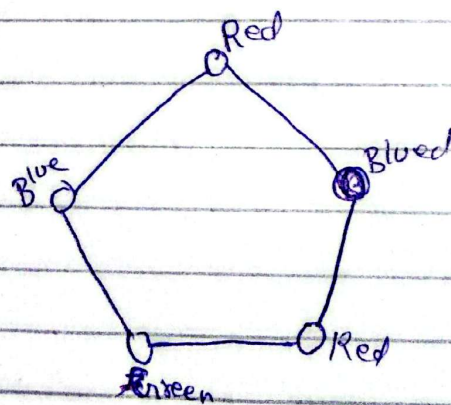
\Rightarrow if a graph is circuit with n vertices then
 i, it is 2-chromatic if n is even.
 ii, it is 3-chromatic if n is odd.

ex:



2 chromatic graph for n vertices even.

ex:2



Hence chromatic Number is 3 if n vertices in odd.