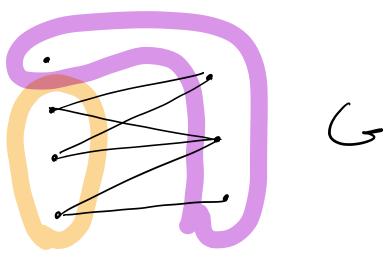
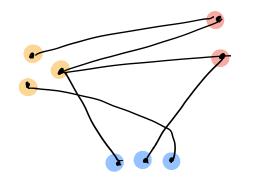
Det G is hiporthe it recan tood P, P2CV(G)

S.I. P, UP2 = U(G) P, NP2 = Ø

it u, w e Pi, i=10,2 than u i w are not adjacent.



Det We say G is k-partite, if we can find P1, P2, --- , PKCV(G) s.t UP: = V(G) +; PinPj = & all i +j. sucha that ywePi then vi, w one not adjacent.



Observation
Gis k-colorable & Gis k-pertite.

How to color a graph? Noine Algorithm: (Conclusion, can use at most Done Colony? find an uncoloned · choose a color not in use by its reighbors (< DLO) of these, so can do!) Smarter Algorithm Does the graph have only one vertex? · let v have smallest possible · Hen, color v - will only need of v+1

colors at worst!

