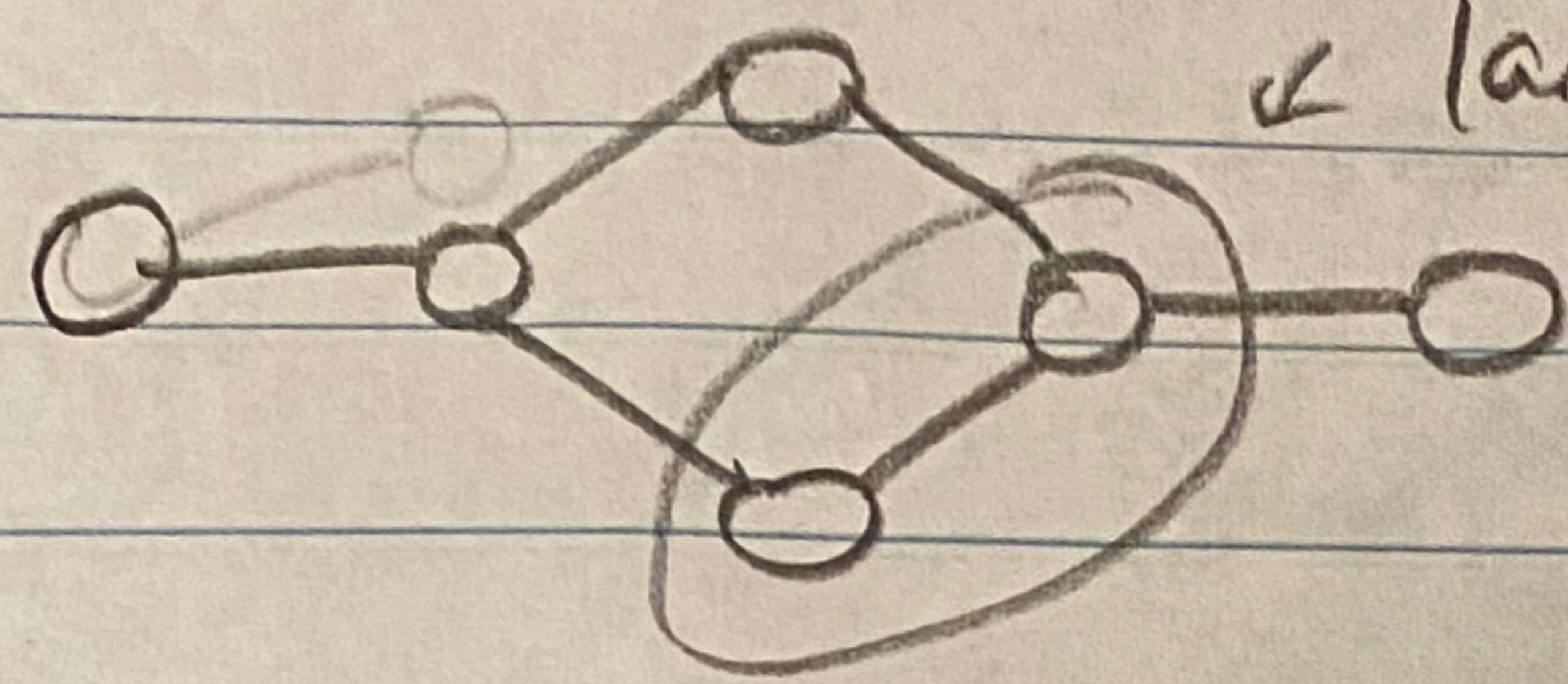


HW 2

1a)

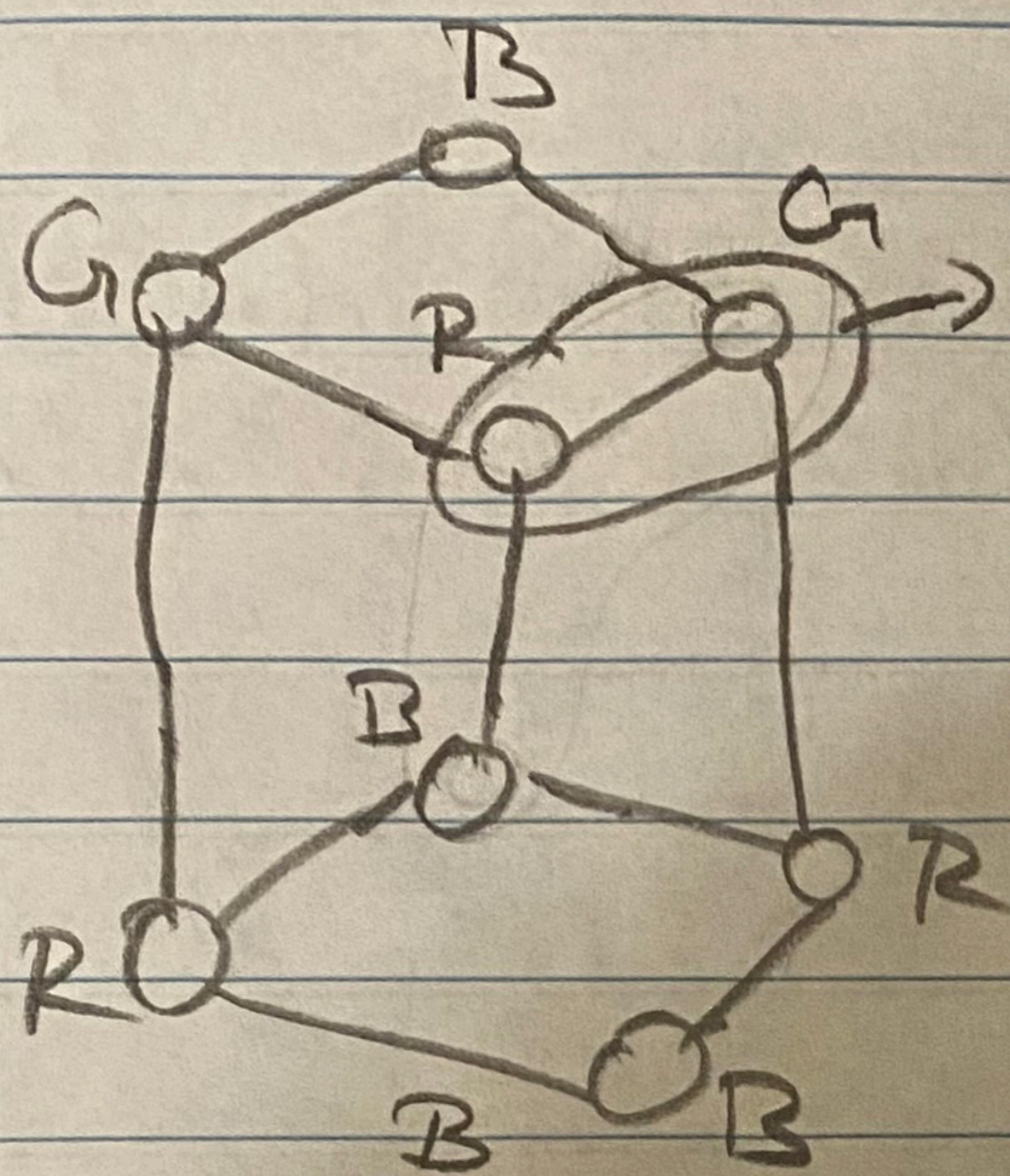


< largest clique size is 2

\Rightarrow need 2 colors
(max)

2 is chromatic number

1b)



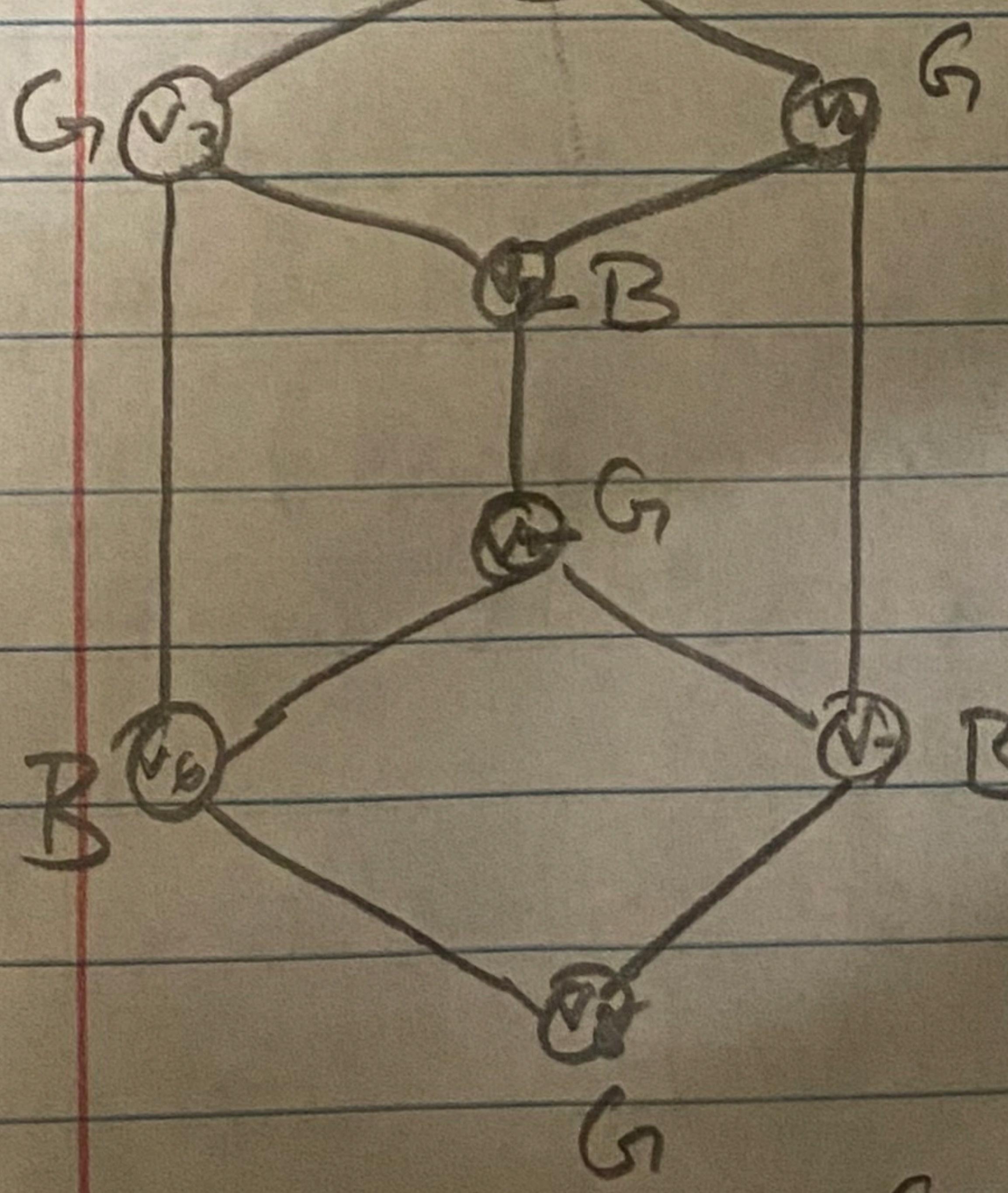
largest

clique size is

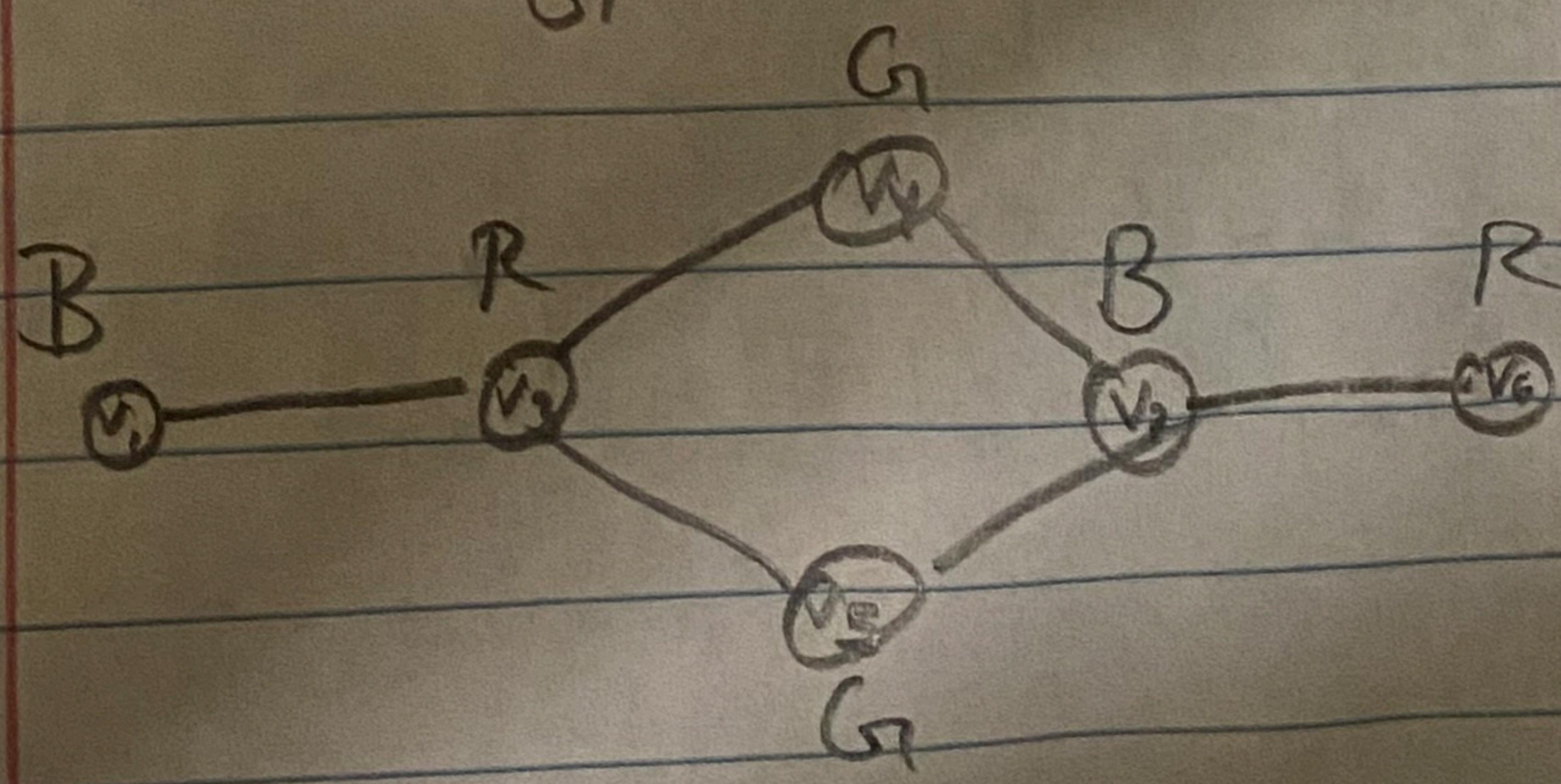
chromatic number

2 \Rightarrow need 2 colors (max)

but current organization
requires 3 colors



Possible Solution
need only 2 colors



Possible Solution
need 3 colors

Possible Diver

to Class Graph

private:

Colored ∈ False

Color ∈ φ (Can be an int) ($1 \Rightarrow$ blue, $2 \Rightarrow$ red...)

adjMatrix ∈ φ (list of adjacent vertices)

procedure Greedy {

}

Procedure main()

Graph G_i ∈ φ (store vertices in specified

CreateGraph(G_i) → arrangement)

ColoredAll ∈ True (checks if any vertices uncolored)

newcolor ∈ φ

while any vertex v of G_i is uncolored;

Greedy(G_i, newColor)

if newColor is empty:

All vertices of G_i are colored

(i.e., ColoredAll = true)

end-if

end-while

end-main