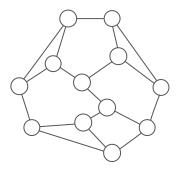🍰 **Interview Cake**
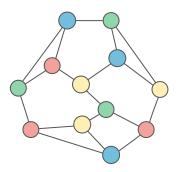
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Given an undirected graph⥀ with maximum degree ⥀ D, find a graph coloring⥀ using at most $D + 1$ colors.

For example:

This graph's maximum degree (D) is 3, so we have 4 colors ($D + 1$). Here's one possible coloring:

Graphs are represented by a list of N node objects, each with a label, a set of neighbors, and a color:

Python 2.7 ▾

```python
class GraphNode:

    def __init__(self, label):
        self.label = label
        self.neighbors = set()
        self.color = None


a = GraphNode('a')
b = GraphNode('b')
c = GraphNode('c')

a.neighbors.add(b)
b.neighbors.add(a)
b.neighbors.add(c)
c.neighbors.add(b)

graph = [a, b, c]
```

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