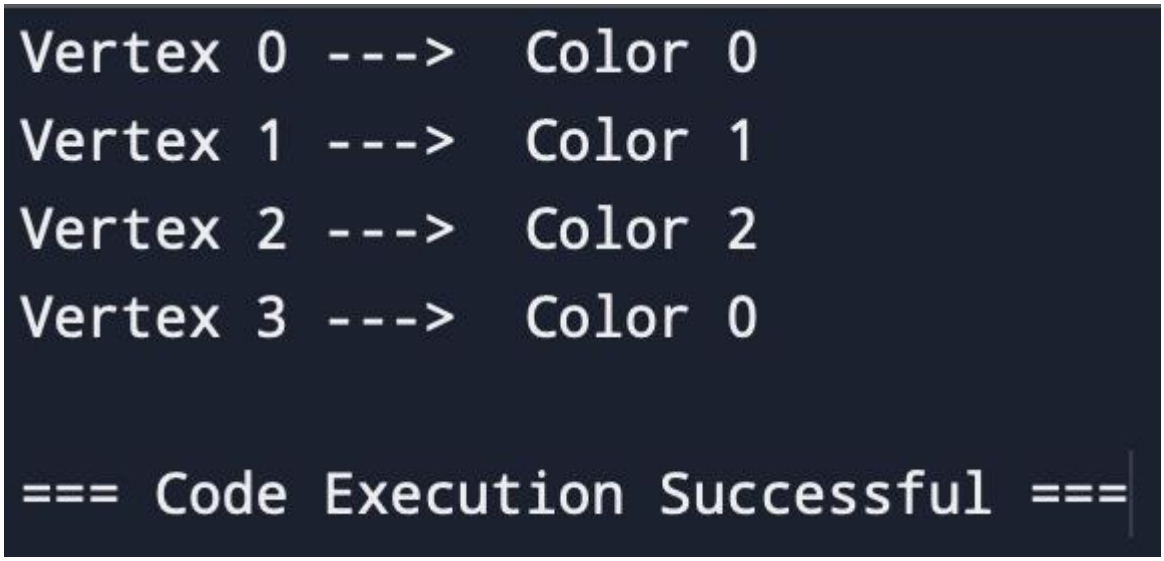
116. Graph Coloring

PROGRAM:-

```
def graph_coloring(graph):
    n = len(graph)
    result = [-1] * n
    result[0] = 0
    available = [False] * n
    for u in range(1, n):
        for i in graph[u]:
            if result[i] != -1:
                available[result[i]] = True
        cr = 0
        while cr < n:
            if not available[cr]:
                break
            cr += 1
        result[u] = cr
        for i in graph[u]:
            if result[i] != -1:
                available[result[i]] = False
    for u in range(n):
        print(f"Vertex {u} --->  Color {result[u]}")
graph = [[1, 2], [0, 2], [0, 1, 3], [2]]

graph_coloring(graph)
```

OUTPUT:-



TIME COMPLEXITY:-O(n*v)