AI Lab 5

Map Coloring

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Code

graph = {

'A': ['B', 'C'],

'B': ['A', 'C', 'D'],

'C': ['A', 'B', 'D', 'E', 'F'],

'D': ['B', 'C', 'E'],

'E': ['C', 'D', 'F'],

'F': ['C', 'E'],

'G': []}

array = set()

color\_L = {}

color = ["Red", "Blue", "Green"]

def csp(array, graph, color, node):

if node not in array:

for n in range(len(color)):

can\_use\_color = True

for neighbor in graph[node]:

if neighbor in array and color\_L[neighbor] == color[n]:

can\_use\_color = False

break

if can\_use\_color:

color\_L[node] = color[n]

array.add(node)

for neighbor in graph[node]:

csp(array, graph, color, neighbor)

break

else:

return False

return True

for node in graph.keys():

if node not in array:

csp(array, graph, color, node)

for node in graph.keys():

print(node, ":", color\_L[node])

Output

