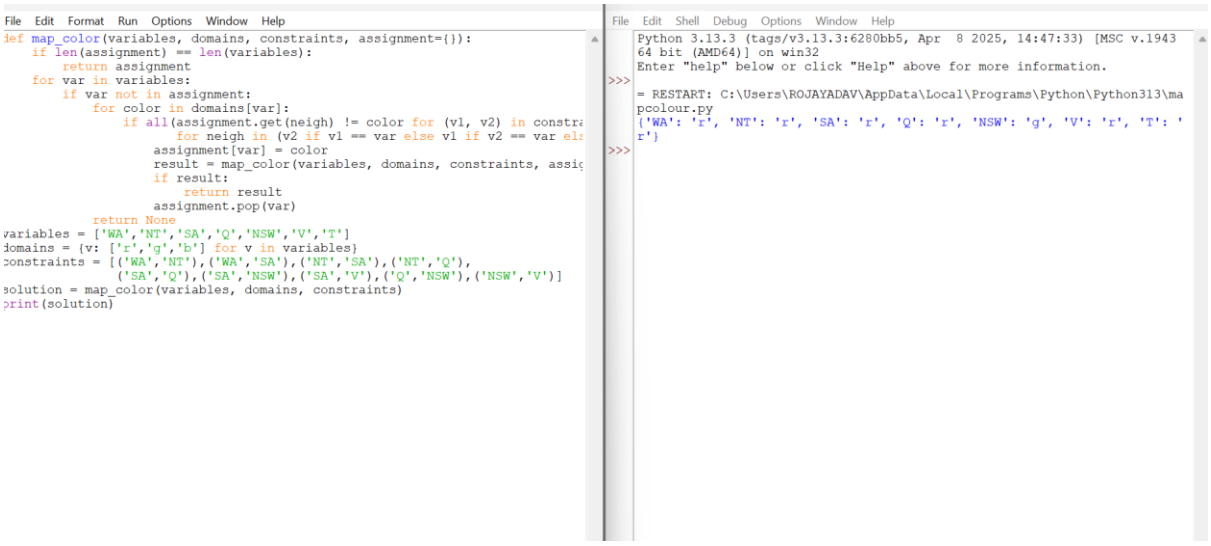
Write the python program for Map Coloring to implement CSP.



```
File  Edit  Format  Run  Options  Window  Help
def map_color(variables, domains, constraints, assignment={}):
    if len(assignment) == len(variables):
        return assignment
    for var in variables:
        if var not in assignment:
            for color in domains[var]:
                if all(assignment.get(neigh) != color for (v1, v2) in constra
                       for neigh in (v2 if v1 == var else v1 if v2 == var els
                    assignment[var] = color
                    result = map_color(variables, domains, constraints, assig
                    if result:
                        return result
                    assignment.pop(var)
            return None
variables = ['WA','NT','SA','Q','NSW','V','T']
domains = {v: ['r','g','b'] for v in variables}
constraints = [('WA','NT'),('WA','SA'),('NT','SA'),('NT','Q'),
               ('SA','Q'),('SA','NSW'),('SA','V'),('Q','NSW'),('NSW','V')]
solution = map_color(variables, domains, constraints)
print(solution)
```

```
File  Edit  Shell  Debug  Options  Window  Help
Python 3.13.3 (tags/v3.13.3:6280bb5, Apr  8 2025, 14:47:33) [MSC v.1943
64 bit (AMD64)] on win32
Enter "help" below or click "Help" above for more information.
>>>
= RESTART: C:\Users\ROJAYADAV\AppData\Local\Programs\Python\Python313\ma
pcolour.py
{'WA': 'r', 'NT': 'r', 'SA': 'r', 'Q': 'r', 'NSW': 'g', 'V': 'r', 'T': '
r'}
>>>
```