```python
def addEdge(adj, v, w):
    adj[v].append(w)
    adj[w].append(v)
    return adj
def greedyColoring(adj, V):
    result = [-1] * V
    result[0] = 0;
    available = [False] * V
    for u in range(1, V):
        for i in adj[u]:
            if (result[i] != -1):
                available[result[i]] = True
        cr = 0
        while cr < V:
            if (available[cr] == False):
                break
            cr += 1
        result[u] = cr
        for i in adj[u]:
            if (result[i] != -1):
                available[result[i]] = False
    for u in range(V):
        print("Vertex", u, " ---> Color", result[u])
if __name__ == '__main__':
```
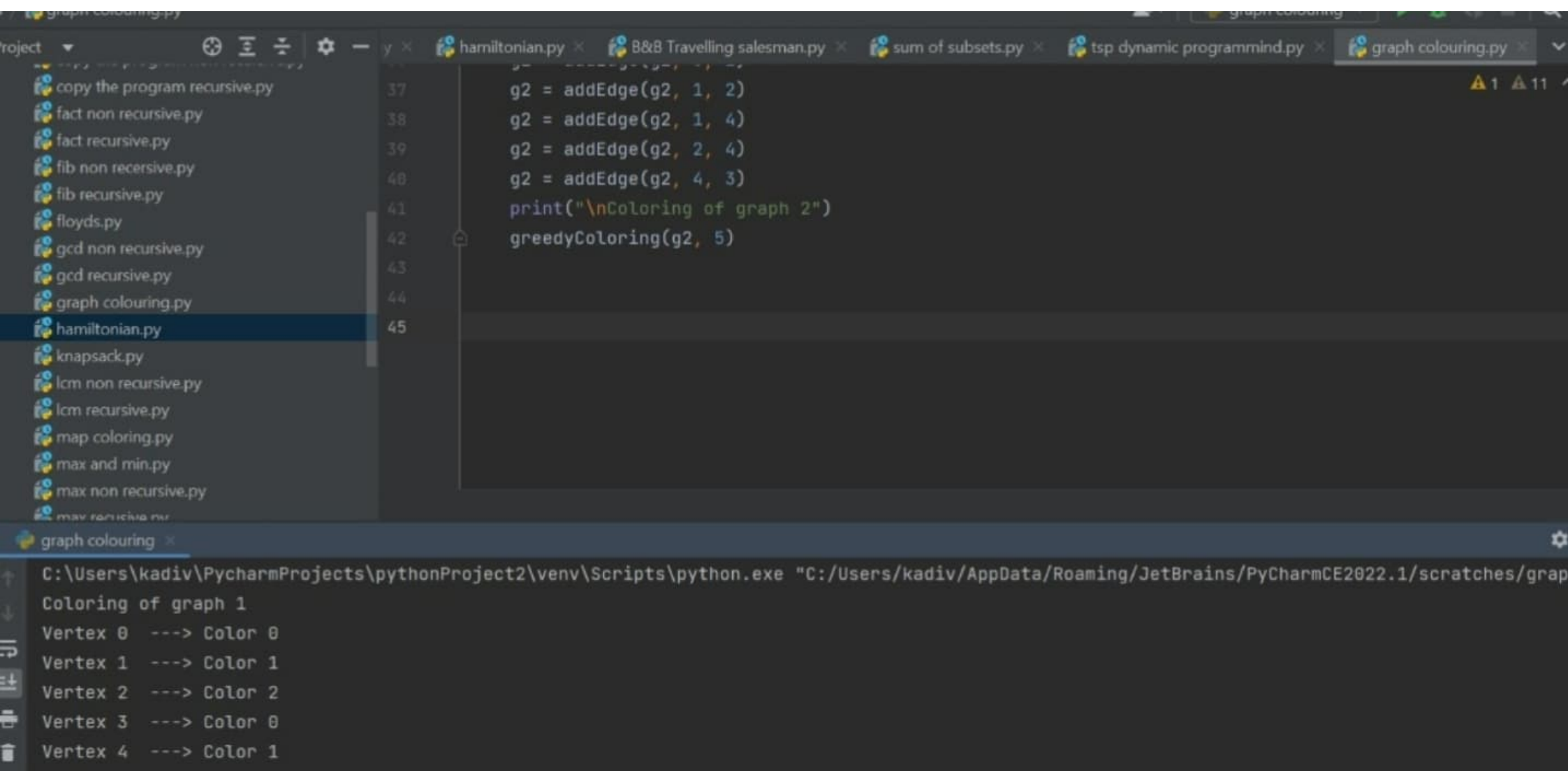
```python
            print("Vertex", u, " ---> Color", result[u])

if __name__ == '__main__':
    g1 = [[] for i in range(5)]
    g1 = addEdge(g1, 0, 1)
    g1 = addEdge(g1, 0, 2)
    g1 = addEdge(g1, 1, 2)
    g1 = addEdge(g1, 1, 3)
    g1 = addEdge(g1, 2, 3)
    g1 = addEdge(g1, 3, 4)
    print("Coloring of graph 1 ")
    greedyColoring(g1, 5)
    g2 = [[] for i in range(5)]
    g2 = addEdge(g2, 0, 1)
    g2 = addEdge(g2, 0, 2)
    g2 = addEdge(g2, 1, 2)
    g2 = addEdge(g2, 1, 4)
    g2 = addEdge(g2, 2, 4)
    g2 = addEdge(g2, 4, 3)
    print("\nColoring of graph 2")
    greedyColoring(g2, 5)
```

Files panel:
- copy the program recursive.py
- fact non recursive.py
- fact recursive.py
- fib non recersive.py
- fib recursive.py
- floyds.py
- gcd non recursive.py
- gcd recursive.py
- graph colouring.py
- hamiltonian.py
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- lcm non recursive.py
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- map coloring.py
- max and min.py
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- mergesort.py
- MST.py
- multiplication non recursive.py
- multiplication recursive.py
- n-queens.py
- optimal BST.py
- palindrome non recursive.py
- palindrome recursive.py

```
37     g2 = addEdge(g2, 1, 2)
38     g2 = addEdge(g2, 1, 4)
39     g2 = addEdge(g2, 2, 4)
40     g2 = addEdge(g2, 4, 3)
41     print("\nColoring of graph 2")
42     greedyColoring(g2, 5)
43
44
45
```

graph colouring ×

```
C:\Users\kadiv\PycharmProjects\pythonProject2\venv\Scripts\python.exe "C:/Users/kadiv/AppData/Roaming/JetBrains/PyCharmCE2022.1/scratches/grap
Coloring of graph 1
Vertex 0  ---> Color 0
Vertex 1  ---> Color 1
Vertex 2  ---> Color 2
Vertex 3  ---> Color 0
Vertex 4  ---> Color 1
```