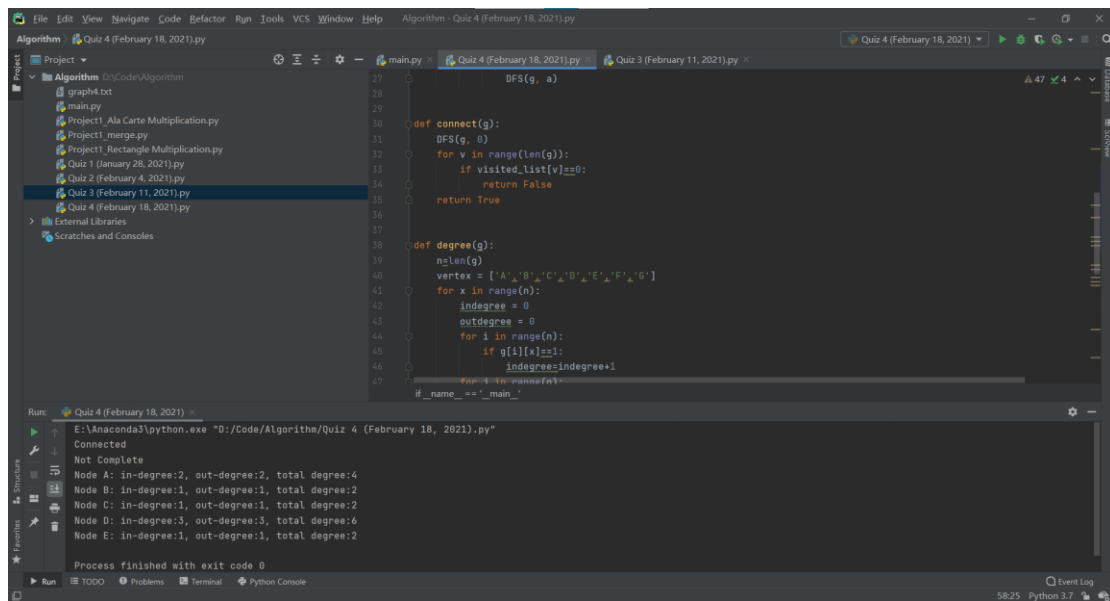


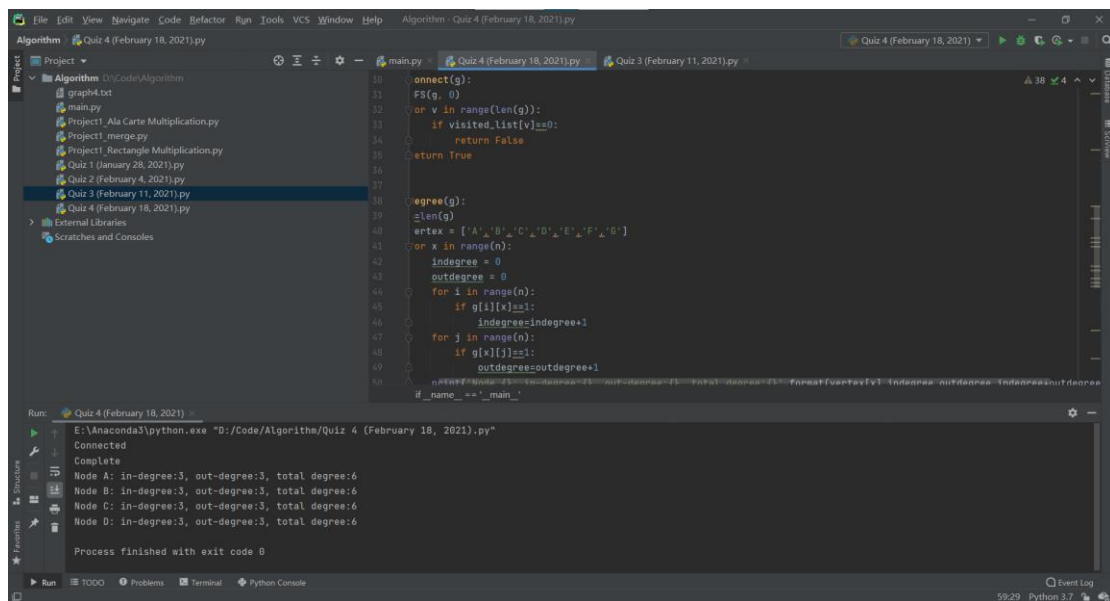
Test case1:



```
File Edit View Navigate Code Refactor Run Tools VCS Window Help Algorithm - Quiz 4 (February 18, 2021).py
Project
  Algorithm
    graph4.txt
    main.py
    Project1_Ala Carte Multiplication.py
    Project1_merge.py
    Project1_Rectangle Multiplication.py
    Quiz 1 (January 28, 2021).py
    Quiz 2 (February 4, 2021).py
    Quiz 3 (February 11, 2021).py
    Quiz 4 (February 18, 2021).py
  External Libraries
  Scratches and Consoles

Run: Quiz 4 (February 18, 2021).py
E:\Anaconda3\python.exe "D:/Code/Algorithme/Quiz 4 (February 18, 2021).py"
Connected
Not Complete
Node A: in-degree:2, out-degree:2, total degree:4
Node B: in-degree:1, out-degree:1, total degree:2
Node C: in-degree:1, out-degree:1, total degree:2
Node D: in-degree:3, out-degree:3, total degree:6
Node E: in-degree:1, out-degree:1, total degree:2
Process finished with exit code 0
```

Test case2:



```
File Edit View Navigate Code Refactor Run Tools VCS Window Help Algorithm - Quiz 4 (February 18, 2021).py
Project
  Algorithm
    graph4.txt
    main.py
    Project1_Ala Carte Multiplication.py
    Project1_merge.py
    Project1_Rectangle Multiplication.py
    Quiz 1 (January 28, 2021).py
    Quiz 2 (February 4, 2021).py
    Quiz 3 (February 11, 2021).py
    Quiz 4 (February 18, 2021).py
  External Libraries
  Scratches and Consoles

Run: Quiz 4 (February 18, 2021).py
E:\Anaconda3\python.exe "D:/Code/Algorithme/Quiz 4 (February 18, 2021).py"
Connected
Complete
Node A: in-degree:3, out-degree:3, total degree:6
Node B: in-degree:3, out-degree:3, total degree:6
Node C: in-degree:3, out-degree:3, total degree:6
Node D: in-degree:3, out-degree:3, total degree:6
Process finished with exit code 0
```

Test case3:

```
graph LR
    A --- B
    A --- C
    A --- D
    B --- A
    B --- C
    B --- D
    C --- A
    C --- B
    C --- D
    D --- A
    D --- B
    D --- C
    E --- None
```

```
def DFS(g, a):
    connect(g)
    FS(g, 0)
    for v in range(len(g)):
        if visited_list[v] == 0:
            return False
    return True

def connect(g):
    len(g)
    vertex = ['A', 'B', 'C', 'D', 'E', 'F', 'G']
    for x in range(n):
        indegree = 0
        outdegree = 0
        for i in range(n):
            if g[i][x] == 1:
                indegree = indegree + 1
            if g[x][i] == 1:
                outdegree = outdegree + 1
    return indegree, outdegree

if __name__ == '__main__':
    # main logic here
```

Run: Quiz 4 (February 18, 2021) - E:\Anaconda3\python.exe "D:/Code/Algorithm/Quiz 4 (February 18, 2021).py"

Not Connected

Not Complete

Node A: in-degree:3, out-degree:3, total degree:6
Node B: in-degree:3, out-degree:3, total degree:6
Node C: in-degree:3, out-degree:3, total degree:6
Node D: in-degree:3, out-degree:3, total degree:6
Node E: in-degree:0, out-degree:0, total degree:0

Process finished with exit code 0

Test case4:

```
def DFS(g, cur_vert):
    global visited_list
    visited_list[cur_vert] = 1
    w = []
    for i in range(len(g)):
        if g[cur_vert][i] == 1 and visited_list[i] == 0:
            w.append(i)
    if len(w) != 0:
        for i in range(len(w)):
            a = w[i]
            if visited_list[a] == 0:
                DFS(g, a)
    return True

def connect(g):
    DFS(g, 0)
    for v in range(len(g)):
        if visited_list[v] == 0:
            return False
    return True

if __name__ == '__main__':
    # main logic here
```

Run: Quiz 4 (February 18, 2021) - E:\Anaconda3\python.exe "D:/Code/Algorithm/Quiz 4 (February 18, 2021).py"

Not Connected

Not Complete

Node A: in-degree:1, out-degree:0, total degree:1
Node B: in-degree:3, out-degree:1, total degree:4
Node C: in-degree:2, out-degree:2, total degree:4
Node D: in-degree:2, out-degree:3, total degree:5
Node E: in-degree:1, out-degree:3, total degree:4

Process finished with exit code 0