

## EXPERIMENT-17

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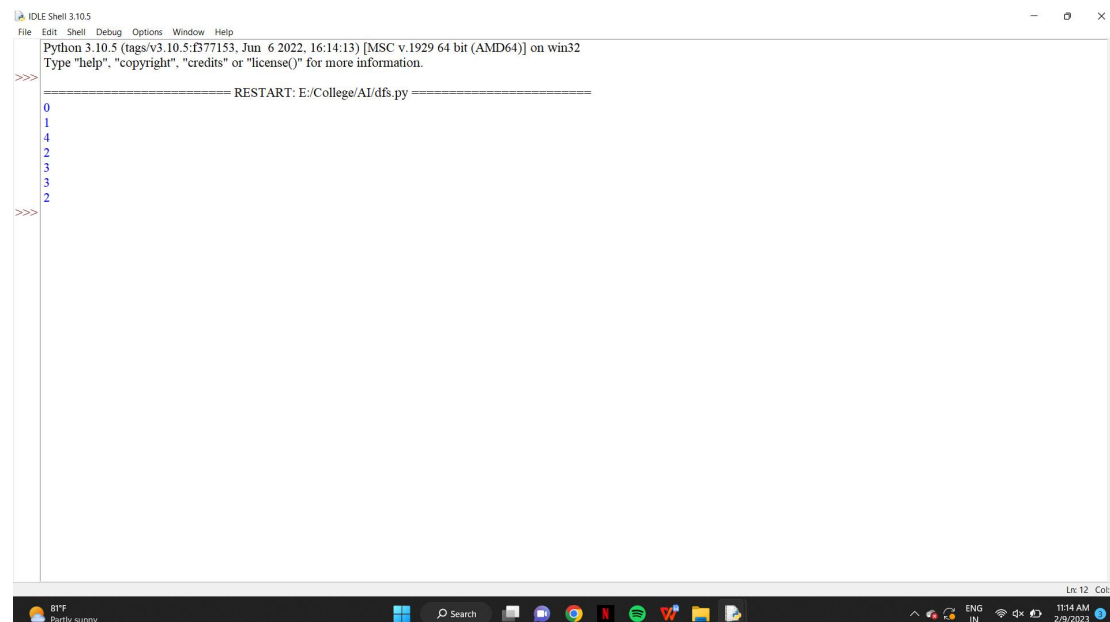
Course: CSA1789 Artificial Intelligence

Q) Write the python program to implement DFS

Program:

```
def dfs(graph, start, visited=None):
    if visited is None:
        visited = set()
    visited.add(start)
    print(start)
    for next in graph[start] - visited:
        dfs(graph, next, visited)
    return visited
graph = {'0': set(['1', '2']),
        '1': set(['0', '3', '4']),
        '2': set(['0']),
        '3': set(['1']),
        '4': set(['2', '3'])}
dfs(graph, '0')
```

Output:



```
Python 3.10.5 (tags/v3.10.5:f377153, Jun 6 2022, 16:14:13) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: E:/College/AI/dfs.py =====
0
1
4
2
3
3
2
>>>
```