# DFS

In this assignment it was requested to code DFS algorithm. I have used a recursive implementation to achieve it because it simplifies the code, making it easier to read, and reduces the time complexity from linear to logarithmic.

### Complexity analysis

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | 10000 graph size | 50000 graph size | 50000 graph size | 1000000 graph size |
| Node Class using ArrayList data structure | 0ms | 5ms | 7ms | 11ms |

Thus DFS search algorithm has time complexity of O(log(n)).