

```

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2 // Professor Kleinman
3 // CIS 22C
4 // 2023-12-12
5
6
7 ESA * Graph::getVertices(Graph* graph, std::string &start)
8 {
9     // ESAs are FIFO and use append() and pop() to add and remove elements from the back
    of ESA
10    ESA *discovered = new ESA(1000);
11    ESA *visited = new ESA(1000);
12
13    if (!graph->getEdges(start, eDir::FROM))
14    {
15        return nullptr;
16    }
17
18    discovered->append(start);
19
20    while (discovered->getSize())
21    {
22        std::string vName = discovered->pop();
23
24        bool matchFound = false;
25        for (int i = 0; i < visited->getSize(); i++)
26        {
27            if (vName == visited->get(i))
28            {
29                matchFound = true;
30                break;
31            }
32        }
33
34        if (matchFound) { continue; }
35
36        visited->append(vName);
37
38        EGA *edges = graph->getEdges(vName, eDir::FROM);
39
40        for (int i = 0; i < edges->getNum(); i++)
41        {
42            std::string end = edges->get(i).end;
43            discovered->append(end);
44        }
45    }
46
47    return visited;
48 }

```