

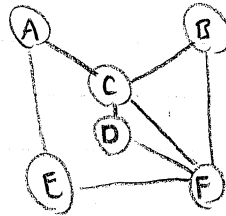
Graph Travel

Depth

Alg

11/16 R

Depth - First



⊛ This is a stack

Out: A C B F D E

Path: A → C → B → F → D → F → E

Algorithm

- Start at node,
- Recursively visit all neighbors in order if unmarked

Starting at D

Out: D C A E F B

(Vertices not Nodes)

Implement

```

Def Node DFS (Node * self) {
    cout << self >> endl;
    self → done = true;
    for (Node n : self → neighbors) {
        if (!n → done) {
            DFS(n);
        }
    }
}
    
```

⊛ Linked Lists are good for Low, dynamic data sets because of low disk accesses. More data should be in array.

Cost of DFS → $\Theta(V + E)$