

# Notes

## Depth first search traversal of this graph

Meet - nfu-jbhz-qmi

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03:50

# Basic DFS

Ayush Mishra

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ENG 03:50 11-04-2021

Let's see different ways to see how it works

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3 03:51 You A

```
# Global or class scope variables
n = number of nodes in the graph
g = adjacency list representing graph
visited = [false, ..., false] # size n

function dfs(at):
    if visited[at]: return
    visited[at] = true

    neighbours = graph[at]
    for next in neighbours:
        dfs(next)

# Start DFS at node zero
start_node = 0
dfs(start_node)
```

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Ayush Mishra

Meeting details ^

Microphone, Video, Screen Share, Raise hand, Ayush Mishra is presenting

Windows taskbar: Type here to search, 29% battery, 11-04-2021, 03:51

**the depth first search to get deeper understanding of how it works you need to do is initiali**

A screenshot of a Google Meet window. The main content area displays a presentation slide with a black background and white text. The title 'Graph Theory: Breadth First Search' is centered in a large, bold font. Below the title, the name 'William Fiset' is written in a smaller font. In the top left corner of the slide, it says 'Ayush Mishra is presenting'. The top right corner of the slide shows a circular profile picture with the letter 'A'. The bottom right corner of the slide has a small 'SUBSCRIBE' button. The bottom of the screen shows the Windows taskbar with various application icons, a search bar, and system status icons including battery level (29%), network, and time (03:51, 11-04-2021). The bottom of the Meet window shows a toolbar with icons for microphone, video, chat, and other meeting controls.

**the breadth first search graph traversal algorithm is another one of the fundamental search algorithms used its graph runs in a time complexity of  $O(n + m)$  the breadthfirst search algorithm is particularly useful for one thing finding the shortest path on an unweighted graph a breadth first search stress and a node in a graph and expose its neighbouring nodes first before moving on to next items it different from a depth first search in the world and expose graph visit neighbours then you would visit on your neighbours than ever before moving on to the next nodes then we would visit of their neighbours in a layered manner it does this by meeting at you a which made it should be the next this is most easily seen with an example let's begin your search and once more adds to the Q on the left**



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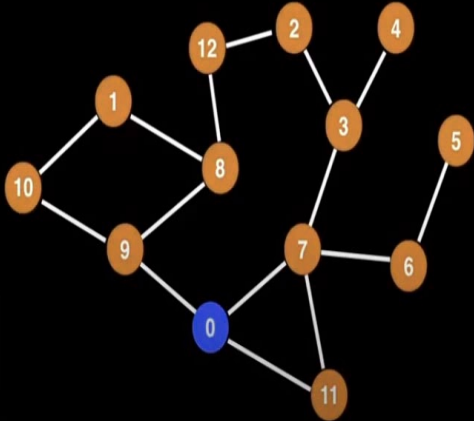
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You

Algorithms Course - Graph Theory Tutorial from a Google Engineer

A BFS starts at some arbitrary node of a graph and explores the neighbour nodes first, before moving to the next level neighbours.





NEXT (SHIFT+N)  
How to: Work at Google - Example  
0:00

34:57 / 6:44:39 • Breadth First Search Algorithm

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11-04-2021