Experiment 2

Path traversal using Breadth First Search

Foundations of AI

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AIM:-

To find the path traversed using BFS (Breadth First Search) given the graph and the starting node

RESULTS AND OUTPUT:-

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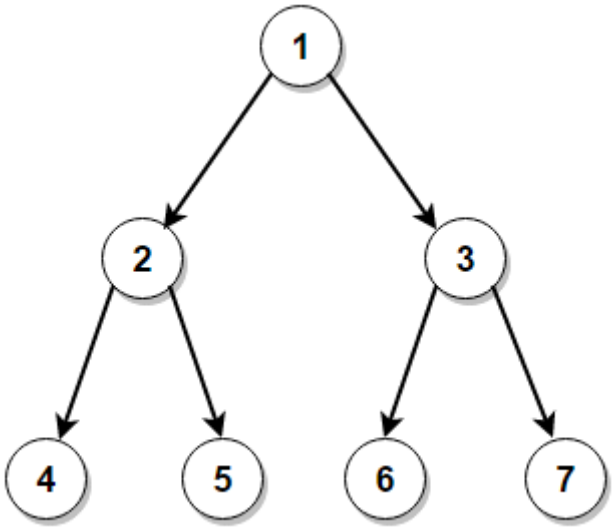
Test case 1:-



Graph:-

Filter

	V1	V2	V3	V4	V5	V6	V7
1	FALSE	TRUE	TRUE	FALSE	FALSE	FALSE	FALSE
2	FALSE	FALSE	FALSE	TRUE	TRUE	FALSE	FALSE
3	FALSE	FALSE	FALSE	FALSE	FALSE	TRUE	TRUE
4	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
5	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
6	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE
7	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE	FALSE

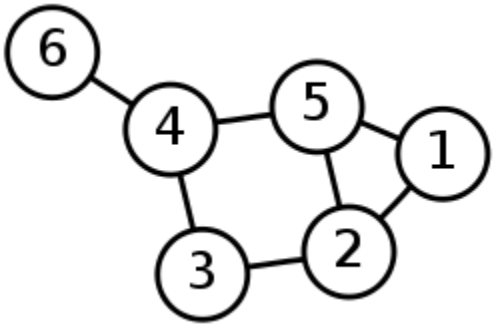
Output :-

Starting node:- 1

```
> path_1=bfs(test_case_1,1)
> cat("Final path(test_case_1): ", path_1)
Final path(test_case_1):  1 2 3 4 5 6 7
>
```

→

Test case 2:-



Graph

Filter

	V1	V2	V3	V4	V5	V6
1	FALSE	TRUE	FALSE	FALSE	TRUE	FALSE
2	TRUE	FALSE	TRUE	FALSE	TRUE	FALSE
3	FALSE	TRUE	FALSE	TRUE	FALSE	FALSE
4	FALSE	FALSE	TRUE	FALSE	TRUE	TRUE
5	TRUE	TRUE	FALSE	TRUE	FALSE	FALSE
6	FALSE	FALSE	FALSE	TRUE	FALSE	FALSE

OUTPUT

Starting node:- 6

```
> path_2=bfs(test_case_2,6)
> cat("Final path(test_case_2): ", path_2)
Final path(test_case_2):  6 4 3 5 2 1
>
```