A.Y. 2022-2023

Subject: Artificial Intelligence   **SAP ID: 60004220253 – Devansh Mehta**

Experiment No. 02

Aim: Implementation of BFS, DFS, DFID

Output:

BFS:

```
PS C:\Users\devan\OneDrive\Desktop\AI Prac Codes> python -u "c:\User
Following is the Breadth-First Search
Open List: ['5']
Closed list: []
Open List: []
Closed list: ['5']
Path :{'5': '5', '3': '5', '7': '5'}
Open List: ['7']
Closed list: ['5', '3']
Path :{'5': '5', '3': '5', '7': '5', '2': '3', '4': '3'}
Open List: ['2', '4']
Closed list: ['5', '3', '7']
Path :{'5': '5', '3': '5', '7': '5', '2': '3', '4': '3', '8': '7'}
Open List: ['4', '8']
Closed list: ['5', '3', '7', '2']
Path :{'5': '5', '3': '5', '7': '5', '2': '3', '4': '3', '8': '7'}
Open List: ['8']
Closed list: ['5', '3', '7', '2', '4']
Path:['5', '3', '4']
```

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DFS:

```
Open List: ['5']
Closed List: []

Open List: []
Closed List: ['5']

Open List: ['3']
Closed List: ['5']

Open List: ['3', '7']
Closed List: ['5']

Open List: ['3']
Closed List: ['5', '7']

Open List: ['3', '8']
Closed List: ['5', '7']

Open List: ['3']
Closed List: ['5', '7', '8']

Open List: []
Closed List: ['5', '7', '8', '3']

Open List: ['2']
Closed List: ['5', '7', '8', '3']

Open List: ['2', '4']
Closed List: ['5', '7', '8', '3']

Open List: ['2']
Closed List: ['5', '7', '8', '3', '4']


Path: ['5', '3', '4']
```

DFID:

```
PS C:\Users\devan\OneDrive\Desktop\AI Prac Codes> python -u "c
Target 5 is reachable from source within max depth of 3
Target 6 is NOT reachable from source within max depth of 2
```