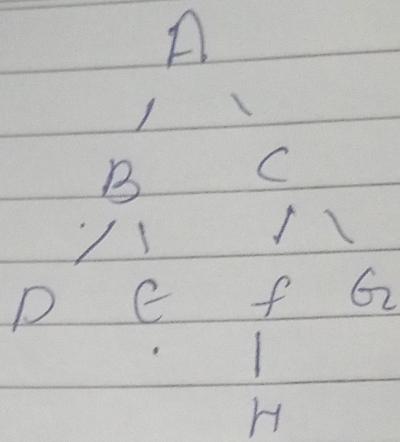


Q1. Bfs

PAGE NO:
DATE:



Step

node
Expansion.

queue

| | | |
|---|---|-------------|
| 1 | A | B, C |
| 2 | B | C, D, E |
| 3 | C | D, E, f, G |
| 4 | D | E, f, G |
| 5 | E | f, G |
| 6 | f | G, H |
| 7 | G | H |
| 8 | H | goal found. |

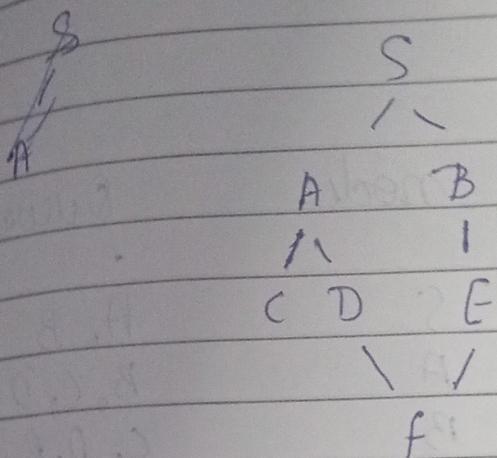
path:

A → C → f → H

parent table :

H ← parent (f)
f ← parent (C)
C ← Parent (A)
A ← start

BFS :-



find a path from start (S) to goal (f)

1st path :-

| Step | node | Queue |
|------|------|---------|
| 1 | S | A, B |
| 2 | A | B, C, D |
| 3 | B | C, D, E |
| 4 | C | D, E |
| 5 | D | E, f |
| 6 | E | f |
| 7 | f | goal |

parent table :-

| node | parent |
|------|--------|
| A | S |
| B | S |
| C | A |
| D | A |
| E | B |
| f | D |

path :-

 $S \rightarrow A \rightarrow D \rightarrow f$

3rd path :-

steps

Step

node

Queue

| | | |
|---|---|---------|
| 1 | S | A, B |
| 2 | A | B, C, D |
| 3 | B | C, D, E |
| 4 | C | D, E |
| 5 | D | E, f |
| 6 | E | f |
| 7 | f | goal ✓ |

path :-

S → B → E → f

parent table :-

| node | parent |
|------|-----------------|
| S | - |
| B | S |
| C | B |
| f | E (final node). |