#### **UNIVERSITY OF ASIA PACIFIC**

Department of Computer Science & Engineering



**Artificial Inteligence Course Code: CSE 403** 

#### **Assignment -1**

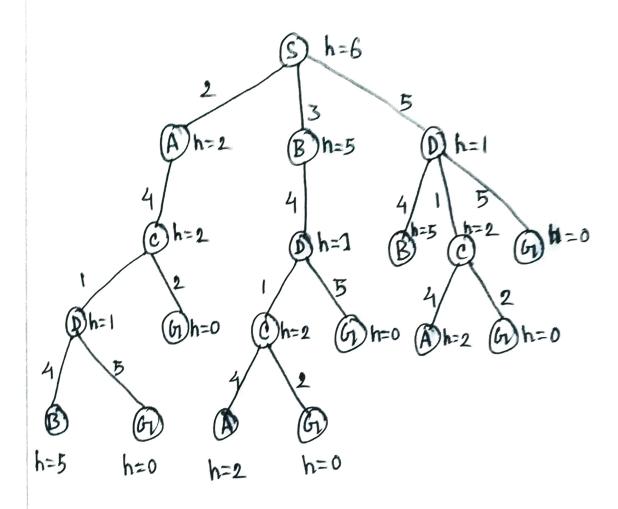
Student Name : Md. Sohanuzzaman Soad

**Student ID** : 18101064

Section : B

**Date of Submission**: 31.08.2021

Problem: 1



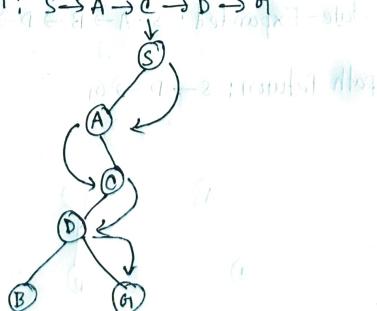
@ Depth fitest Search:

Implementation: Fringe is LIFO stack

C-F	7-0-F
S	A,B,D
S.A.	C'B'D
SIAIC	D.G.B.D
SIAICID	B, 61, 61, B, D
S.A.C.D.B	6, G, B, D
S.A.C.D.B.G	61. B.D 10.00 12.6

State Expanded: S->A->C->D->B->G

path Return: S-> A -> C-> D-> 67



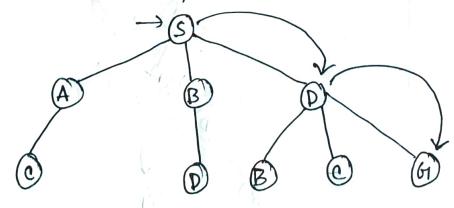
## 6 Breadth First Search!

Implementation: Fringe is FIFO Queue.

		0.00	
	C-F		
S	9-14	AIBID	
SIA	CALO	B.D.C	
SIAIB	i i i i i i i i i i i i i i i i i i i	D.C.D	
SIA, BID		CIDIB, C, G	
SIAIBIDI	c	D, B, C, G, D, G	
SIAIBIDIC	.iD	B, C, G, D, G, C, G	
SIAIBIDIO	2, D, B	C, G, D, G, C, G	
S.A.B.D.C		61, D, 61, C, 61, A, 61	
S. A.B. D.	2.D.B.C.H	p, G, C, G, A, G	
		Define the property of the pro	The second secon

State-Expanded: S+A-B-D-C-D-B-C-D-

path Return: s -> D -> 67

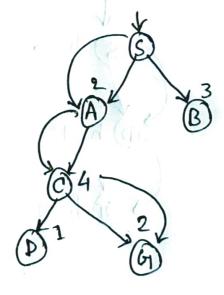


# @ Uniforem Cost Seatish:

C-F		0-F
S		A, B, D 2 3 5
SIA	2 3	B, D, C 3 5 4
SIAIB	£1 . /.	D/ C/ D 5 4 4
SIAIBIC	(8)	D, D, D, 67 5 4 1 2
SIAIBIC, D	F 0:	P, D, OI, B, 67 5
S.A.B.C.D.G	•	D, D, B, G 5 4 4 5
	DE TES	: botrog x 7 otol?

State-Expanded: S -> A -> B -> C -> D -> 67

path Return: S -> A -> C -> 67

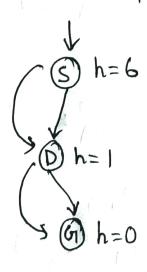


D'Greedy Secorch with Heuristic h shown in the tree:

C-F	0-F
S	A, B, D
	2 5 1
SID	A, B, B, C, G
	2, 5, 5, 2, 0
S1D, 67	A, B, B, C 2 5 5 2

State Expanded; S-> D-> 4

path Return: S -> D -> 67



## @ A\* Search:

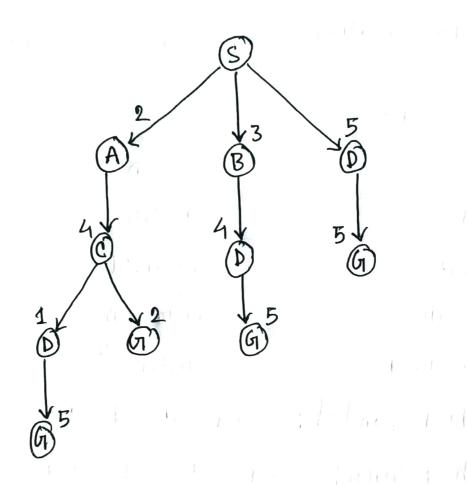
C-F	0-F
S	A, B, D 4 8 6
SIA	B, D, C 8 6 8
SIAID	B, C, B, C, G & & 14 & 10
SIAIDIB	C, B, C, G, D 8 14 8 10 8
SIAIDIB,C	B, C, G, D, D, G 14 8 10 8 8 8
S.A.D. B.C.C	B. G. D. D. G. A. G. 14 10 8 8 8 12 8
SIAIDI BICICID	B, O1 D, G1 A1 G1 C1 G1 14 10 8 8 12 8 10 11
SIAIDIBIC,CIDID	B, G, G, A, G, C, G, B, G 16 10 8 12 8 10 11 16 12
SIAID, BICICID, DIG	B, G, A, G, C, G, B, G 16 10 12 8 10 11 16 12

State-Expanded: S->A->D->B-)(->D->6)

Path Return: S->A->C->67

h=6 : donne 1/2 Co (D) h=1 h = 2 A. Z SIMID h=0 h=1 81,1,A12 A A A A DEIGHT sold of all of 5, 0, F. G. A. 2 The profession is 0.0,0,8,4,6,2 9.4.9.9.7.9.1.2 21 11 11 01 2 11 : 01 01 to H for which it & SIA. D. BIJINI, DI DI DI Mi a. U 4 4 11 01 11: acre di di le 2: betanza : shati 120 by Ac : : montes alog

## Problem-2

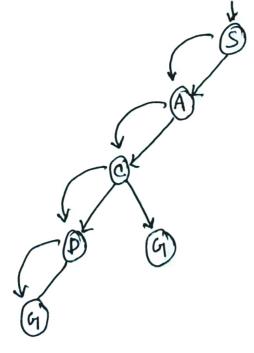


@ Depth - First - Searceh:

Implementation: Fruinge is LIFO stack

0-F	8. 7.	0-F
(11)	accounting a	A.B.D
Vd	N. I	CIBID
()	(4	DIGII BID
	€ 1	6161810
٥, 67		611B,D
	0-7	

state Expanded: S->A->C->D->67

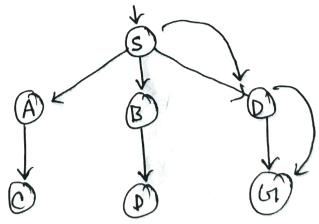


## 6) Breadth First Search:

C-F	O-F
	A.B.D
SIA	BIDIC
SIAIB	DICID
SIAIBID	CIDIG
SIAIB, DIC	Dibi Dibi
SIAIB, DIC, D	61D, 61161
SIAIB, DIC, DIG	D16116

State-Expanded: S->A->B->D->C->D->67

path Return: S->D->67



# @ Unitoron - Cost - Search:

C-F	0-F
S	A, B, D 2 3 5
SIA	B, D, C 3 5 4
SIAIB	D, C, D 5 4 4
SIA, BIC	D, D, D, G 5 4 1 2
SIAIBICID .	D, D, G, G
SIAIB ICIDIG	D, D, G 5 4 5

State-Expanded:  $S \rightarrow A \rightarrow B \rightarrow C \rightarrow D \rightarrow G$ path Refuron:  $S \rightarrow A \rightarrow C \rightarrow G$ 

