Lecture Example 3
Depth First Search
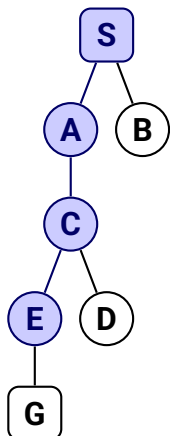Prepared by S. Baskaran

State Space
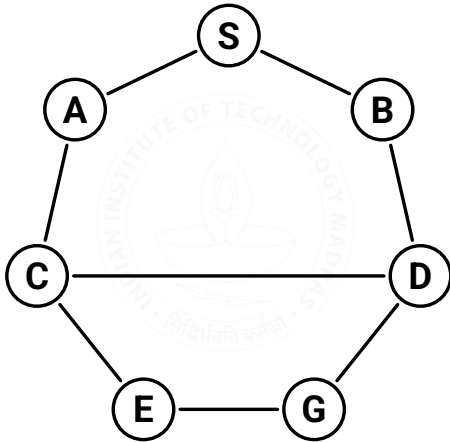
X	MoveGen(X)
S	[A, B]
A	[S, C]
B	[S, D]
C	[E, D, A]
D	[B, C, G]
E	[C, G]
G	[D, E]

Depth First Search – Search Tree

Depth First Search – Solution

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OPEN and CLOSED carry pairs: (NODE,PARENT)

OPEN        (S,null):[]
CLOSED      []

1.
NODE        S
close       (S,null)
moveGen     A:B:[]
newNodes    A:B:[]
newPairs    (A,S):(B,S):[]

OPEN        (A,S):(B,S):[]
CLOSED      (S,null):[]

2.
NODE        A
close       (A,S)
moveGen     S:C:[]
newNodes    C:[]
newPairs    (C,A):[]

OPEN        (C,A):(B,S):[]
CLOSED      (A,S):(S,null):[]

3.
NODE        C
close       (C,A)
moveGen     E:D:A:[]
newNodes    E:D:[]
newPairs    (E,C):(D,C):[]

OPEN        (E,C):(D,C):(B,S):[]
CLOSED      (C,A):(A,S):(S,null):[]

4.
NODE        E
close       (E,C)
moveGen     C:G:[]
newNodes    G:[]
newPairs    (G,E):[]

OPEN        (G,E):(D,C):(B,S):[]
CLOSED      (E,C):(C,A):(A,S):(S,null):[]

5.
NODE        G
GOAL        G

OPEN        (G,E):(D,C):(B,S):[]
CLOSED      (E,C):(C,A):(A,S):(S,null):[]

PATH        S:A:C:E:G:[]
```