Practice Assignment: City Map Example 2
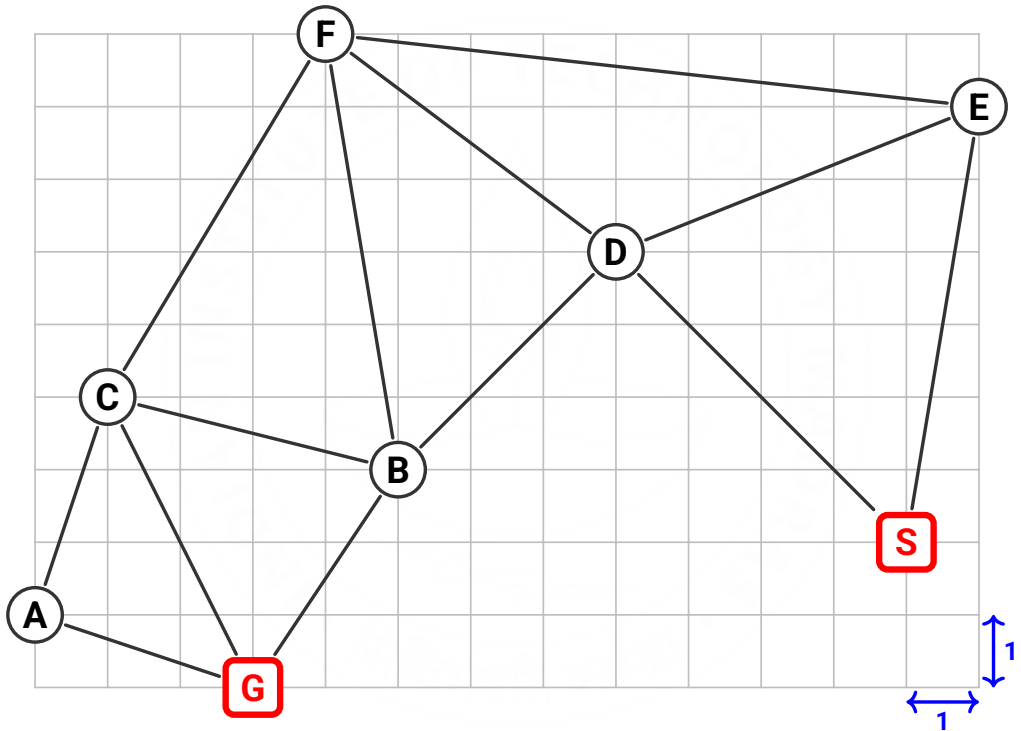# Breadth First Search
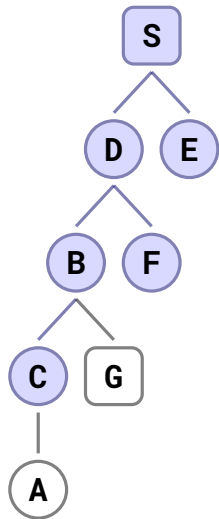
Prepared by S. Baskaran

State Space

MoveGen returns nodes in ALPHABETICAL ORDER.

Search Tree

Solution

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OPEN and CLOSED carry pairs: (NODE,PARENT)


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

1.
NODE       S
close      (S,null)
moveGen    D:E:[]
newNodes   D:E:[]
newPairs   (D,S):(E,S):[]

OPEN       (D,S):(E,S):[]

CLOSED     (S,null):[]

2.
NODE       D
close      (D,S)
moveGen    B:E:F:S:[]
newNodes   B:F:[]
newPairs   (B,D):(F,D):[]

OPEN       (E,S):(B,D):(F,D):[]

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

3.
NODE       E
close      (E,S)
moveGen    D:F:S:[]
newNodes   []
newPairs   []

OPEN       (B,D):(F,D):[]

CLOSED     (E,S):(D,S):(S,null):[]

4.
NODE       B
close      (B,D)
moveGen    C:D:F:G:[]
newNodes   C:G:[]
newPairs   (C,B):(G,B):[]

OPEN       (F,D):(C,B):(G,B):[]

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

5.
NODE       F
close      (F,D)
moveGen    B:C:D:E:[]
newNodes   []
newPairs   []

OPEN       (C,B):(G,B):[]

CLOSED     (F,D):(B,D):(E,S):(D,S):(S,null):[]

6.
NODE       C
close      (C,B)
moveGen    A:B:F:G:[]
newNodes   A:[]
newPairs   (A,C):[]

OPEN       (G,B):(A,C):[]

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

7.
NODE       G
GOAL       G

OPEN       (G,B):(A,C):[]

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

PATH       S:D:B:G:[]
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