

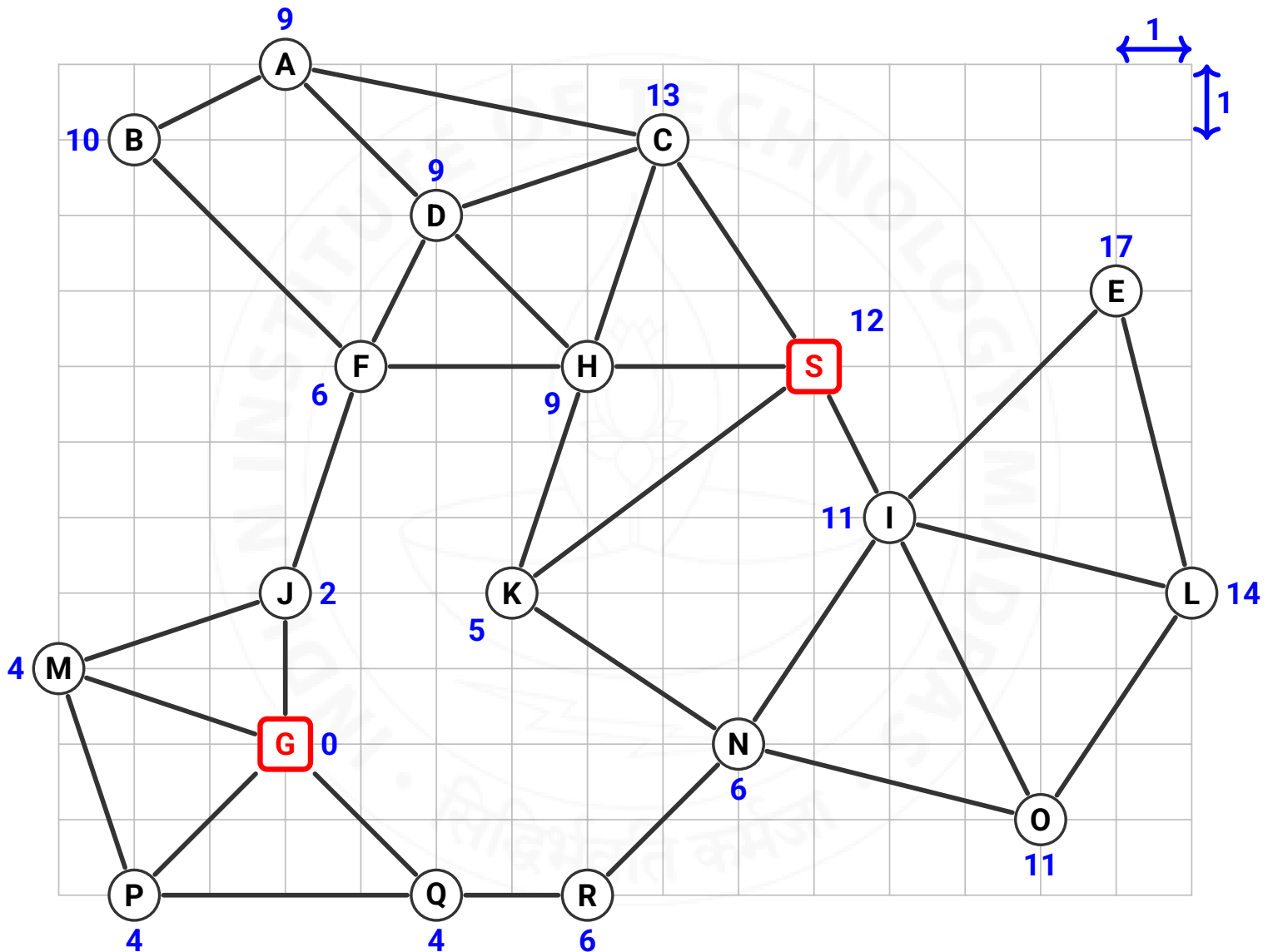
Practice Assignment: City Map Example

Best First Search

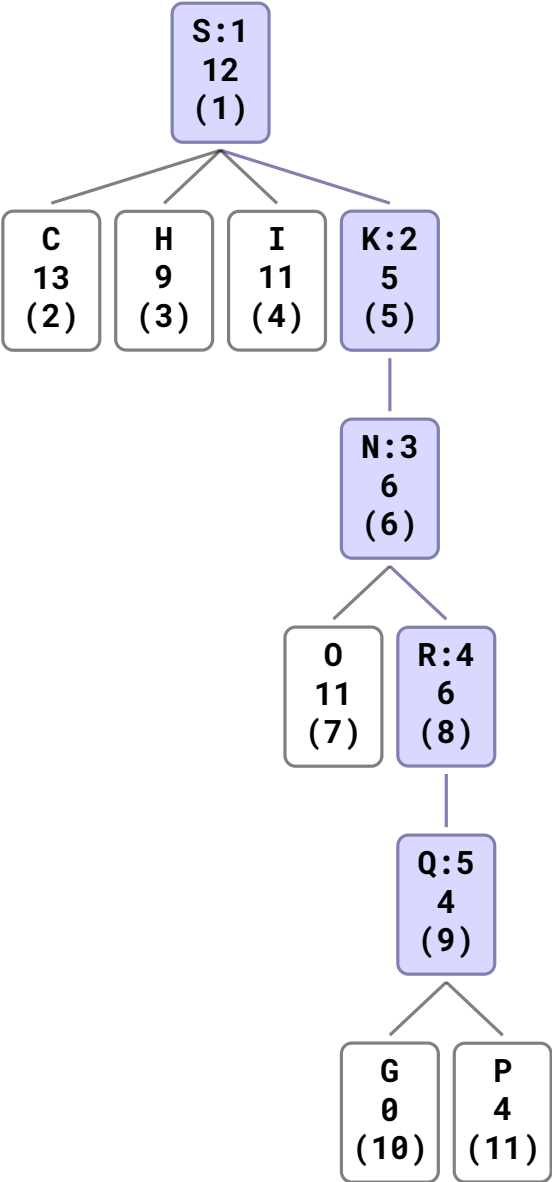
Prepared by S. Baskaran

State Space

MoveGen returns nodes in ALPHABETICAL ORDER.



Search Tree



Solution

OPEN and CLOSED carry tuples: (NODE,PARENT,H-VALUE)

OPEN (S,null,12):[]
CLOSED []

1.
NODE S
close (S,null,12)
moveGen C:H:I:K:[]
newNodes C:H:I:K:[]
newPairs (C,S,13):(H,S,9):(I,S,11):(K,S,5):[]

OPEN (K,S,5):(H,S,9):(I,S,11):(C,S,13):[]
CLOSED (S,null,12):[]

2.
NODE K
close (K,S,5)
moveGen H:N:S:[]
newNodes N:[]
newPairs (N,K,6):[]

OPEN (N,K,6):(H,S,9):(I,S,11):(C,S,13):[]
CLOSED (K,S,5):(S,null,12):[]

3.
NODE N
close (N,K,6)
moveGen I:K:O:R:[]
newNodes O:R:[]
newPairs (O,N,11):(R,N,6):[]

OPEN (R,N,6):(H,S,9):(I,S,11):(O,N,11):(C,S,13):[]
CLOSED (N,K,6):(K,S,5):(S,null,12):[]

4.
NODE R
close (R,N,6)
moveGen N:Q:[]
newNodes Q:[]
newPairs (Q,R,4):[]

OPEN (Q,R,4):(H,S,9):(I,S,11):(O,N,11):(C,S,13):[]
CLOSED (R,N,6):(N,K,6):(K,S,5):(S,null,12):[]

5.
NODE Q
close (Q,R,4)
moveGen G:P:R:[]
newNodes G:P:[]
newPairs (G,Q,0):(P,Q,4):[]

OPEN (G,Q,0):(P,Q,4):(H,S,9):(I,S,11):(O,N,11):(C,S,13):[]

CLOSED (Q,R,4):(R,N,6):(N,K,6):(K,S,5):(S,null,12):[]

6.
NODE G
GOAL G

OPEN (G,Q,0):(P,Q,4):(H,S,9):(I,S,11):(O,N,11):(C,S,13):[]

CLOSED (Q,R,4):(R,N,6):(N,K,6):(K,S,5):(S,null,12):[]

PATH S:K:N:R:Q:G:[]