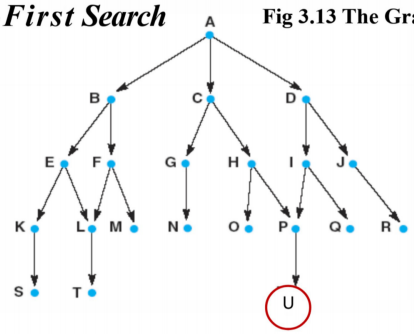
Example: Breadth-First Search

Example: *Breadth-First Search*

Fig 3.13 The Grap

Trace of ***Breadth-First Search*** on the graph of Fig.3.13 (***U*** is desired goal state)

OPEN: FIFO ; descendant **add from right**
Closed: add from the left



Queue

1. open = [A]; closed = [ ]
2. open = [B,C,D]; closed = [A]
3. open = [C,D,E,F]; closed = [B,A]
4. open = [D,E,F,G,H]; closed = [C,B,A]
5. open = [E,F,G,H,I,J]; closed = [D,C,B,A]
6. open = [F,G,H,I,J,K,L]; closed = [E,D,C,B,A]
7. open = [G,H,I,J,K,L,M] (as L is already on open); closed = [F,E,D,C,B,A]
8. open = [H,I,J,K,L,M,N]; closed = [G,F,E,D,C,B,A] ... Open=[I,J,K,L,M,N,O,P]; ...
9. and so on until either U is found or open = [ ]

Remove Open(leftmost) => X

generate children of X;
put X on closed;
eliminate children of X on open or closed;
put remaining children on right end of open

66

Solution

	Open	Closed
1	A	
2	B C D	A
3	C D E F	B A
4	D E F G H	C B A
5	E F G H I J	D C B A
6	F G H I J K L	E D C B A

粘来帮故跟台边

7 GHIJKLM FEDCBA

△ don't need to repeat L

8 HIJKLMN GFEDCBA