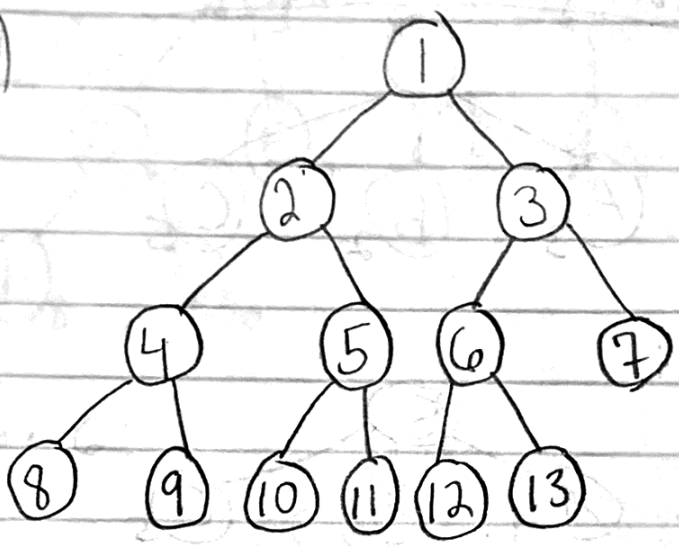
Dax Collison
DXC200000
CS4365.001

Assignment 1: Part 1

1. Uninformed Search

a)



b) BFS order

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13

c) Depth Limited w/ limit 3

1, 2, 4, 8, 9, 5, 10, 11, 3, 6, 12, 13

d) Iterative Deepening Search order

1, 1, 2, 3, 1, 2, 4, 5, 3, 6, 7, 1, 2, 4, 8, 9, 5, 10, 11, 3, 6, 12, 13

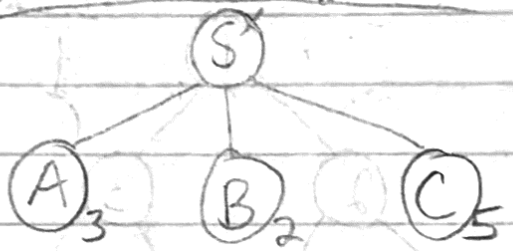
e) Is bidirectional search appropriate?

Bidirectional is appropriate because there is only one goal state. This makes the backward search extremely similar to the forward search. This would make it fairly straightforward to implement as a search.

2. Informed Search

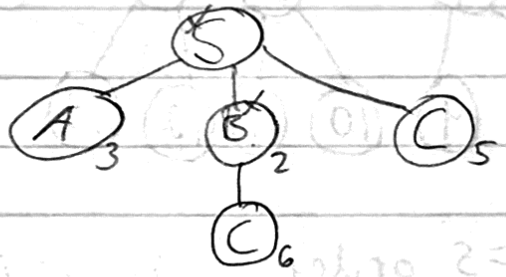
a) i) Uniform - cost search

Itr 1:



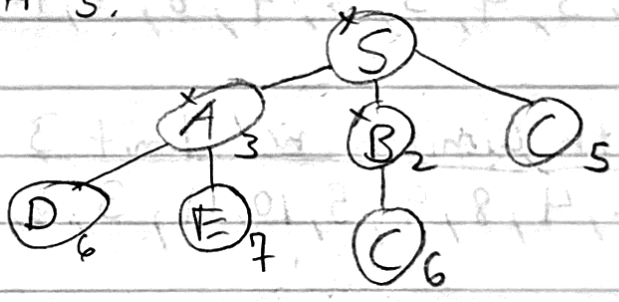
Visited
S

Itr 2:



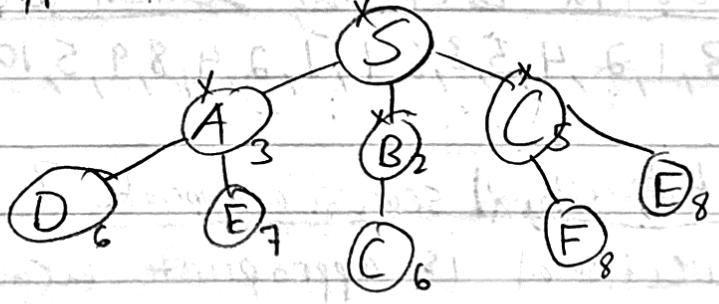
Visited
S, B

Itr 3:



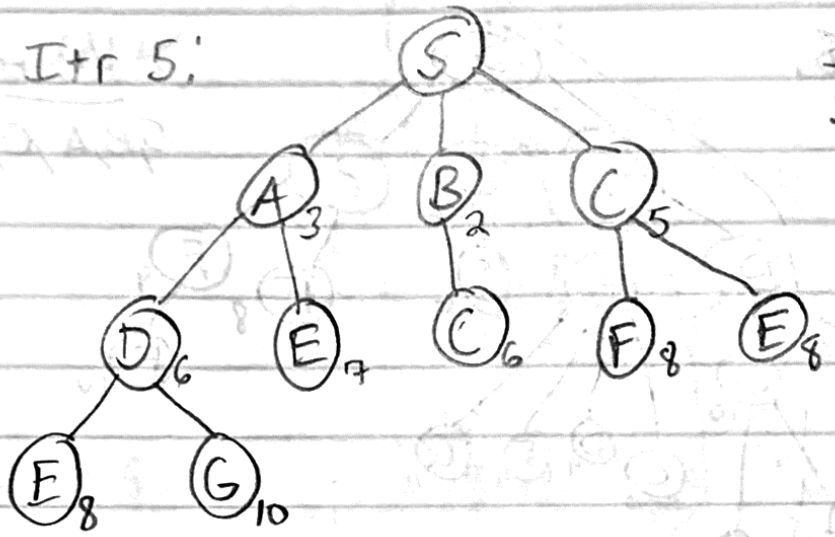
Visited
S, B, A

Itr 4:



Visited
S, B, A, C

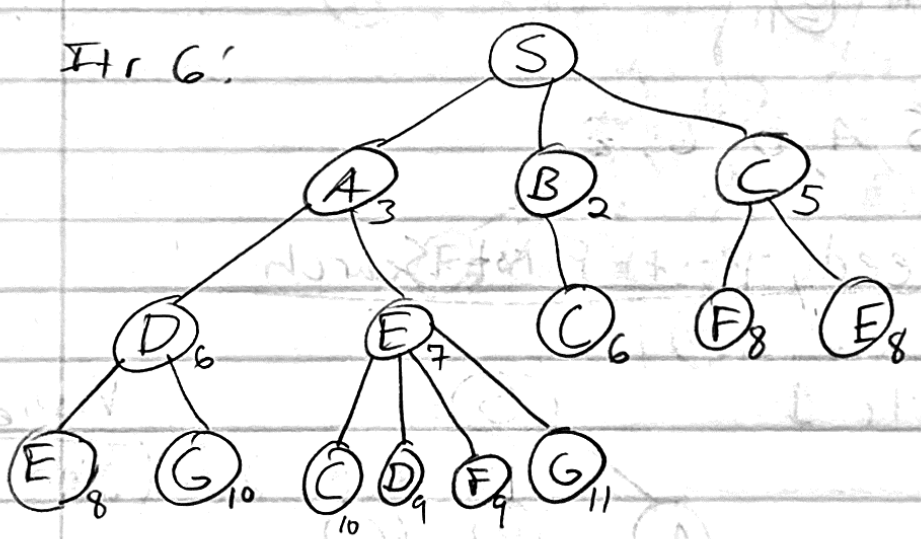
Itr 5:



Visited

S, B, A, C, D

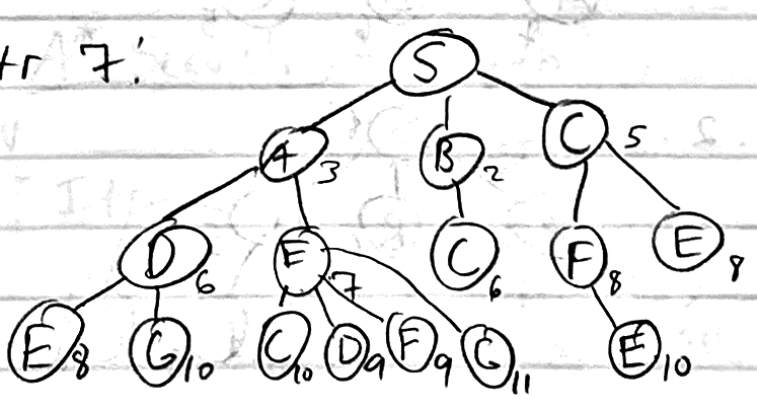
Itr 6:



Visited

S, B, A, C, D, E

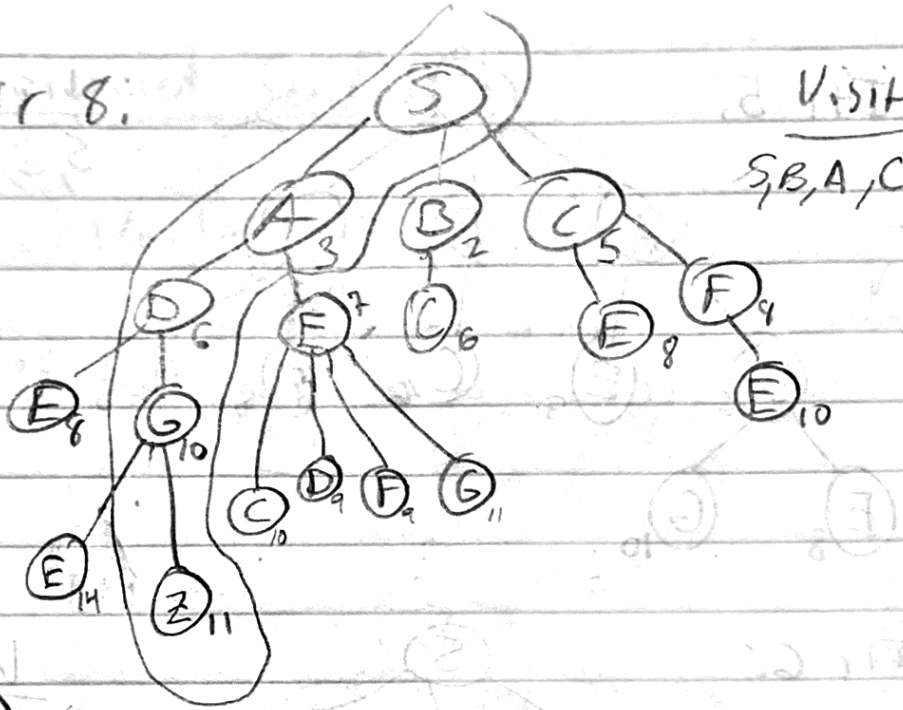
Itr 7:



Visited

S, B, A, C, D, E, F

Itr 8:



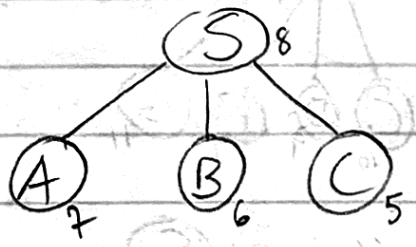
Visited

S, B, A, C, D, E, F, G

ii) S, A, D, G, Z

b) Greedy Best-First Search

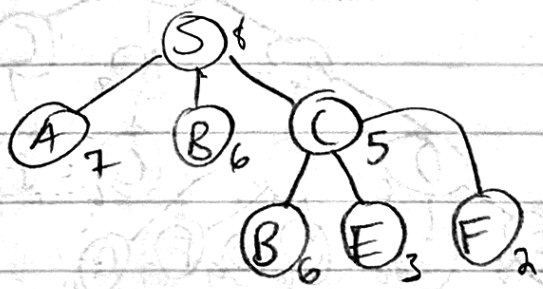
i) Itr 1:



Visited

S

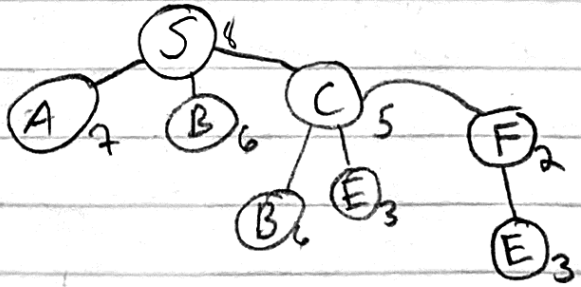
Itr 2:



Visited

S, C

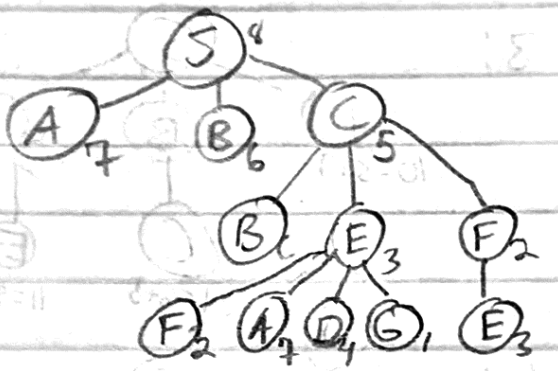
Itr 3:



Visited

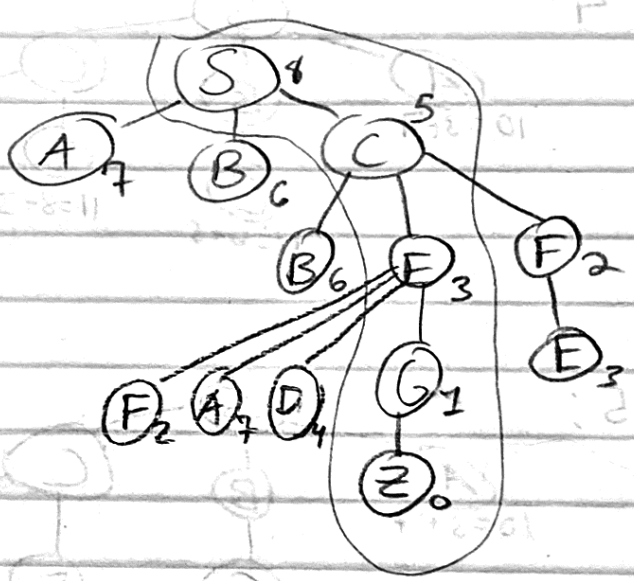
S, C, F

Itr 4:



Visited
S, C, F, E

Itr 5:

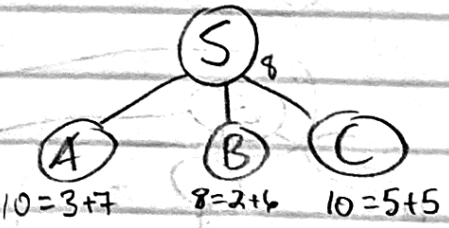


Visited
S, C, F, E, G

ii) S, C, E, G, Z

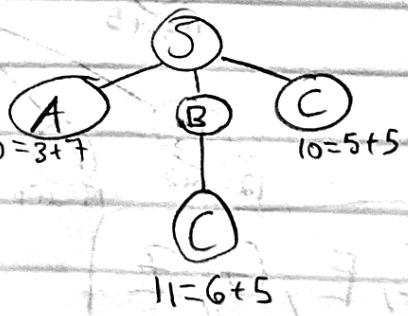
c) A* Search - (f = g + h)

i) Itr 1:



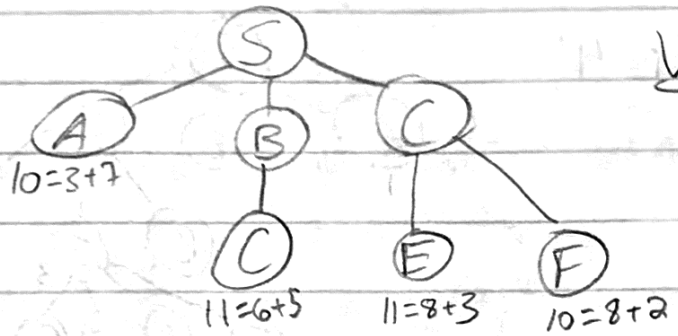
Visited
S

Itr 2:



Visited
S, B

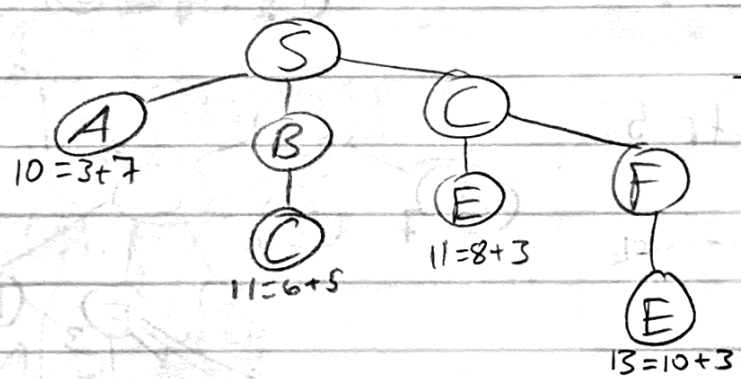
Itr 3:



Visited

S, B, C

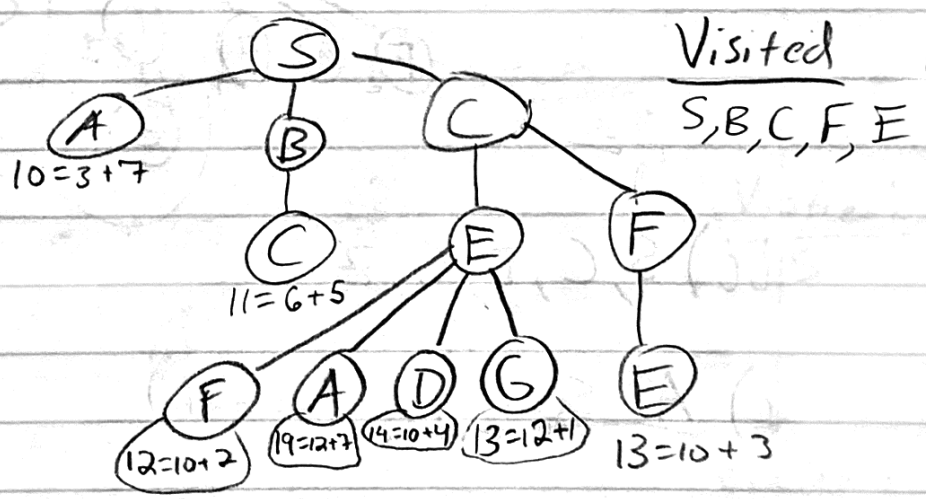
Itr 4:



Visited

S, B, C, F

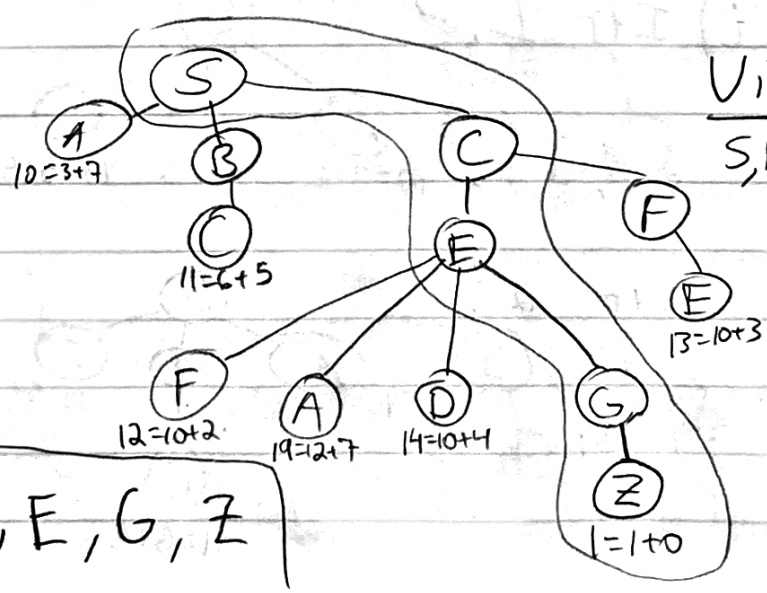
Itr 5:



Visited

S, B, C, F, E

Itr 6:



Visited

S, B, C, F, E, G

ii) S, C, E, G, Z