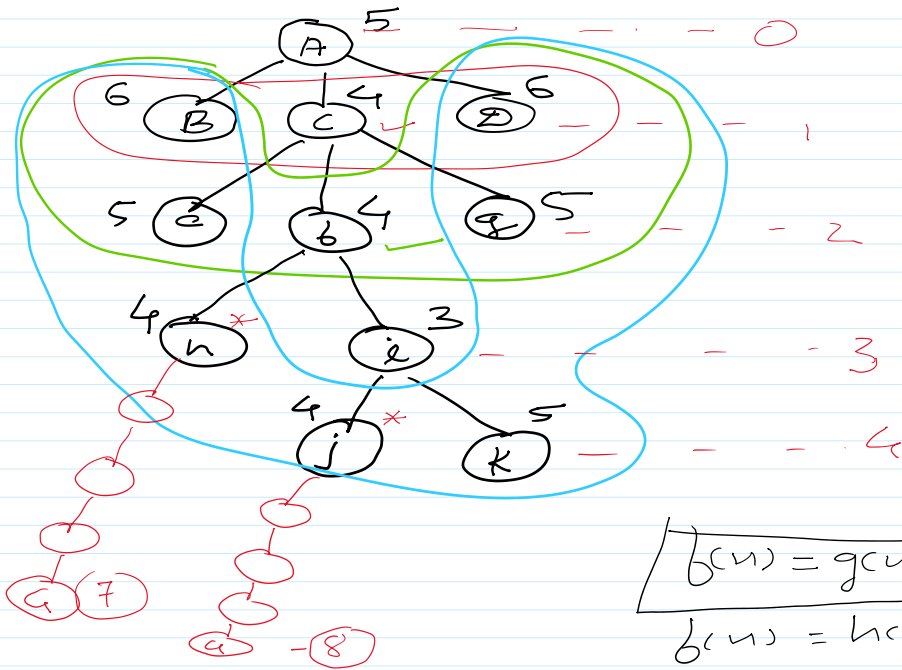


A* Search ✓

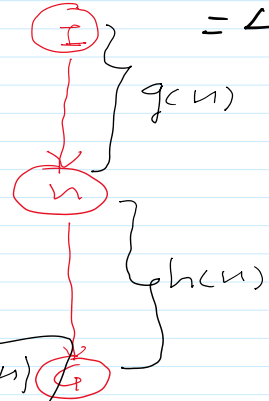


$$f(h) = g(h) + h(h)$$

$$= 3 + 4 = 7$$

$$f(j) = g(j) + h(j)$$

$$= 4 + 4 = 8$$



$$f(n) = g(n) + h(n)$$

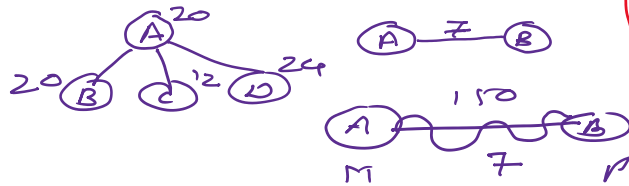
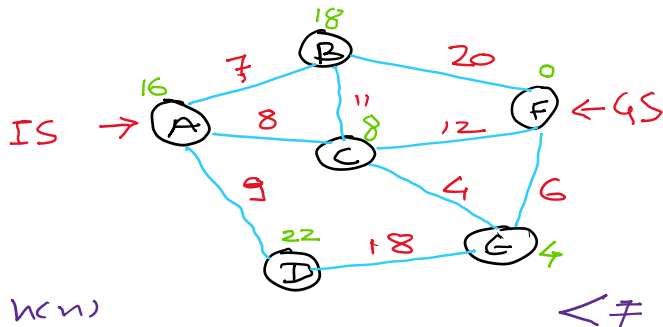
$$f(n) = h(n)$$

Best First Search

A* Search

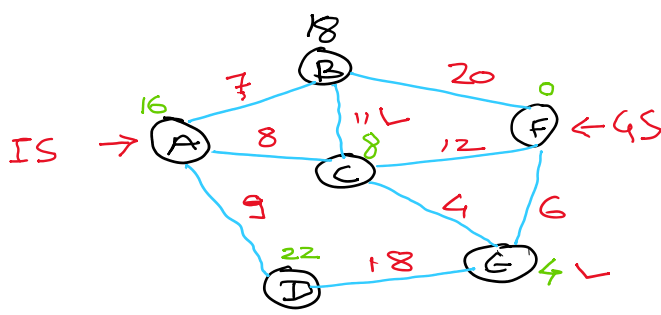
- A - Admissible ✓
- Complete
- Consistent ✓

Route Finding Problem:



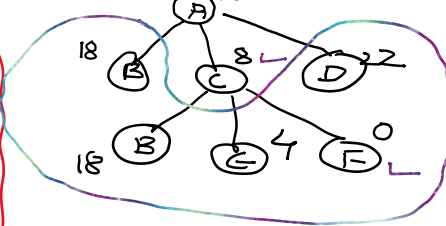
Actual Distance > Straight Line Distance

$$\begin{aligned} \text{SDL} &= \text{AD} - 2 \\ \text{SDL}(A) &= 18 - 2 = 16 \end{aligned} \quad \left\{ \begin{array}{l} h(A) = 16 \\ h(B) = 18 \end{array} \right.$$

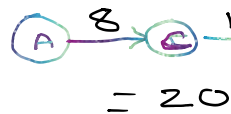


Best First Search

$$f(n) = h(n)$$



Soln: -

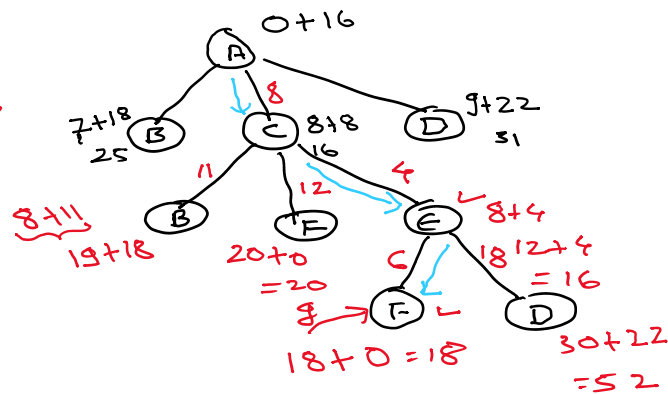


A* Search

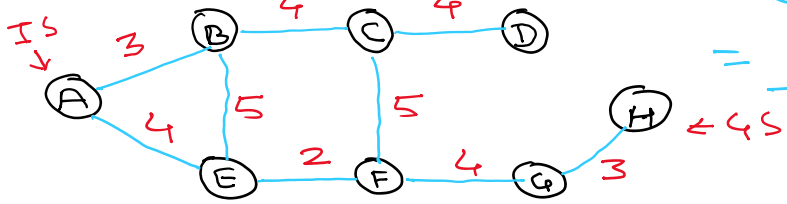
$$f(n) = g(n) + h(n)$$

A*

$$f(n) = g(n) + h(n)$$



Solution Path



$$\begin{aligned} h(B) &= 14 & h(F) &= 10 \\ h(C) &= 10 & h(G) &= 10 \end{aligned}$$

- Best First Search

- A* Search

$$\begin{array}{ll} h(\text{O}) = 8 & h(\text{H}) = 0 \\ h(\text{E}) = 12 & h(\text{A}) = 15 \end{array}$$