EX2—Q1

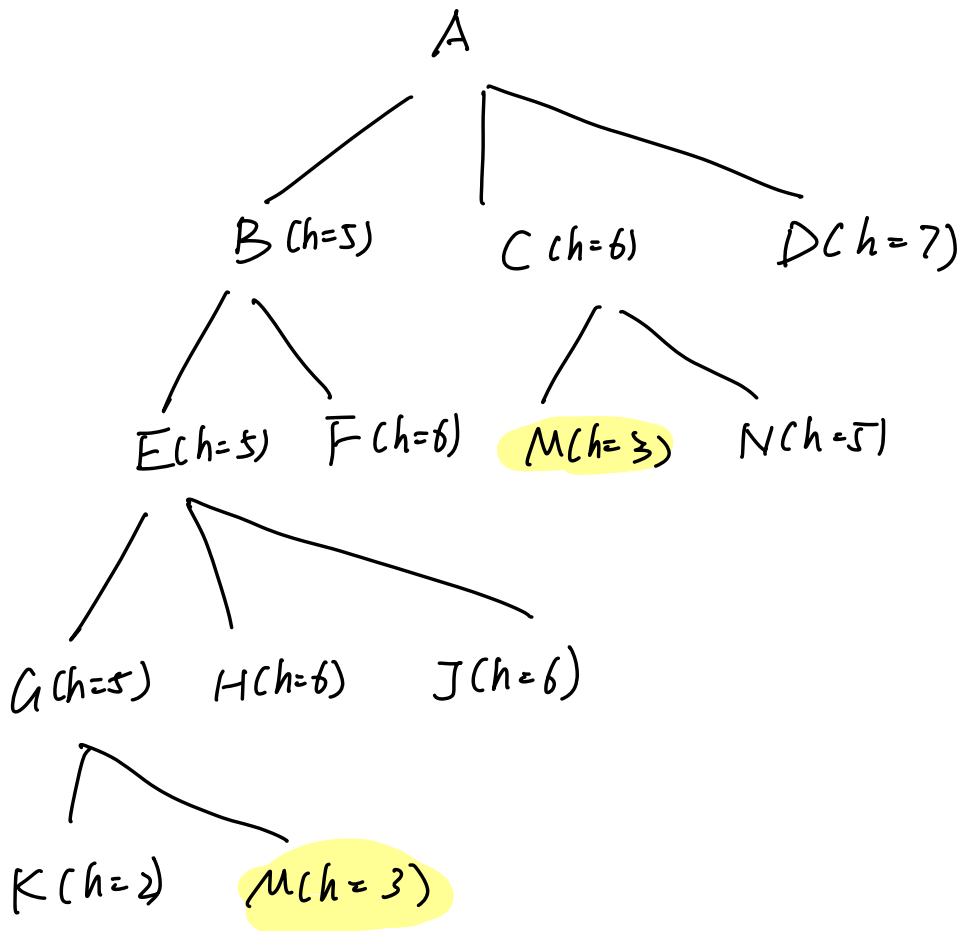A $\longrightarrow$ M   h: cost

(i) Greedy   Open & Closed.   h.

(ii) i find the shorter path ?

(iii) $f(n) = g(n) + h(n)$ update Figure

        actual path depth

(iV) Best - First. in iii   Open Closed. better?

A

B (h=5)   C (h=6)   D (h=7)

E (h=5) F (h=6)   M (h= 3)   N (h=5)

G (h=5)   H (h=6)   J (h=6)

K (h=2)   M (h= 3)

Solution (i) Greedy

Open	Closed
A	[ ]
B(5) C (6) D(7)	A
E(5) F(6) C (6) D(7)	B A
G(5) H(6) J(6) F(6) C (6) D(7)	E B A
K(2) M(3) H(6) J(6) F(6) C (6) D(7)	G E B A
M(3) H(6) J(6) F(6) C (6) D(7)	K G E B A

Goal M found!

(ii) didn't find the optimal solution
another shorter path can reach

A => C => M

(iii) update Figure

A $g(n)=0$

B (h=5) $f=6$ C (h=6) $f=7$ D(h=7) $g(n)=1$
                                      $f=8$

$f=7$ E(h=5) $f=8$ F(h=6)   M(h=3) $f=5$ N(h=5) $f=7$ $g(n)=2$

$f=8$ G(h=5)   H(h=6) $f=9$ J(h=6) $f=9$ $g(n)=3$

$f=6$ K(h=2)   M(h=3) $f=7$ $g(n)=4$
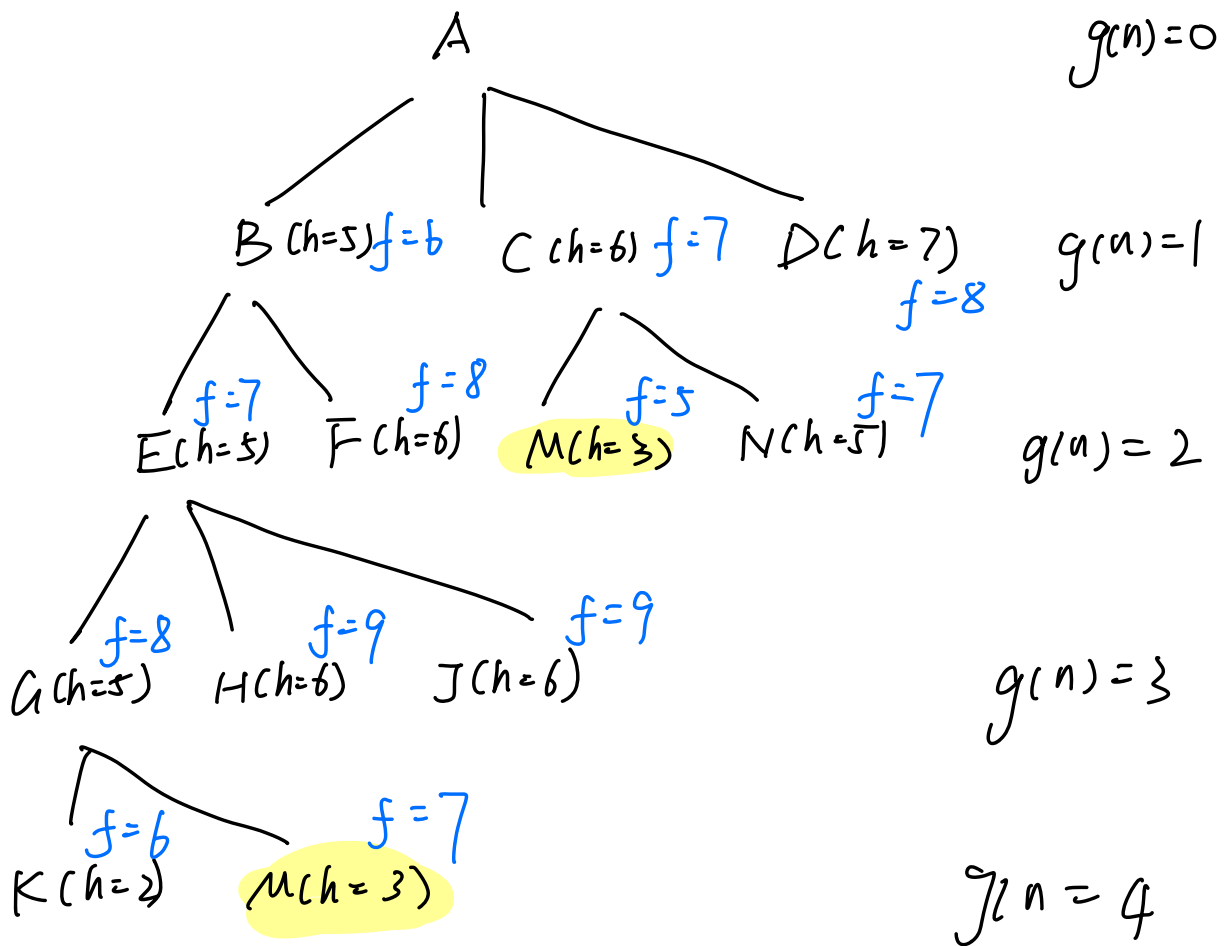
(iv) Best – first Search A*

Open   Close.

A   [ ]

B(6) C(7) D(8)   A

E(7) C(7) F(8) D(8)   BA

C(7) G(8) F(8) D(8) H(9) J(9)   EBA

M(5) N(7) G(8) F(8) D(8) H(9) J(9)   CEBA
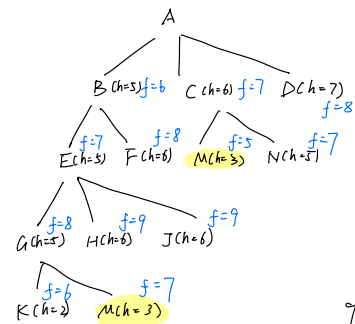
find the goal M

A ⇒ B ⇒ E ⇒ C

Best − First finds a better

Solution than (i)