

Example 1

Actual cost

Start	Next	cost (g)
A	B	4
A	C	1
B	D	3
B	E	8
C	C	2
C	D	2
C	F	6
D	C	2
D	E	4
E	G	2
F	G	8

← what if (C=0)



check its parent,
if same its self
loop, ignore it.

Estimated cost

state	cost(h')
A	8
B	8
C	6
D	5
E	1
F	4
G	0

start: A

goal: G

Path	OPEN	CLOSED
-	$\{A(0+8)\}$	$\{\}$
A	$\{C(1+6=7),$ $B(4+8=12)\}$	$\{A(8)\}$
AC	$\{D(1+2+5=8),$ $F(1+6+4=11),$ $B(4+8=12)\}$	$\{A(8), C(7)\}$ // C is successor of A with poor value
ACD	$\{E(1+2+4+1=8),$ $F(11), B(12)\}$	$\{A(8), C(7), D(8)\}$

// C is successor of D that is available on CLOSED, OLD is better than new successor do nothing

ACDE	$\{K(1+2+4+2+0=9),$ $F(11), B(12)\}$	$\{A(8), C(7),$ $D(8), E(8)\}$
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Algorithm stops as goal is at top of OPEN

Path: ACDEK
Cost: 9 ← optimum

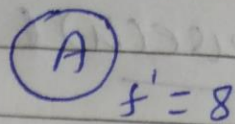


figure 1

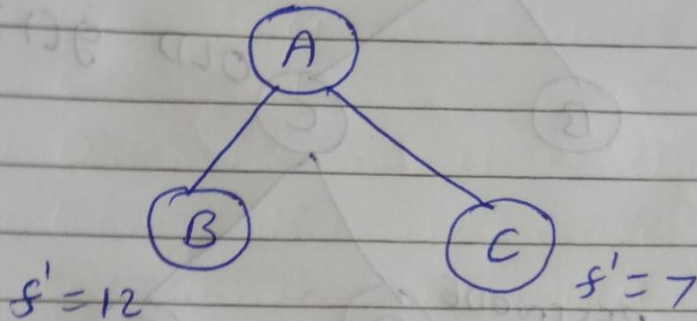


figure 2

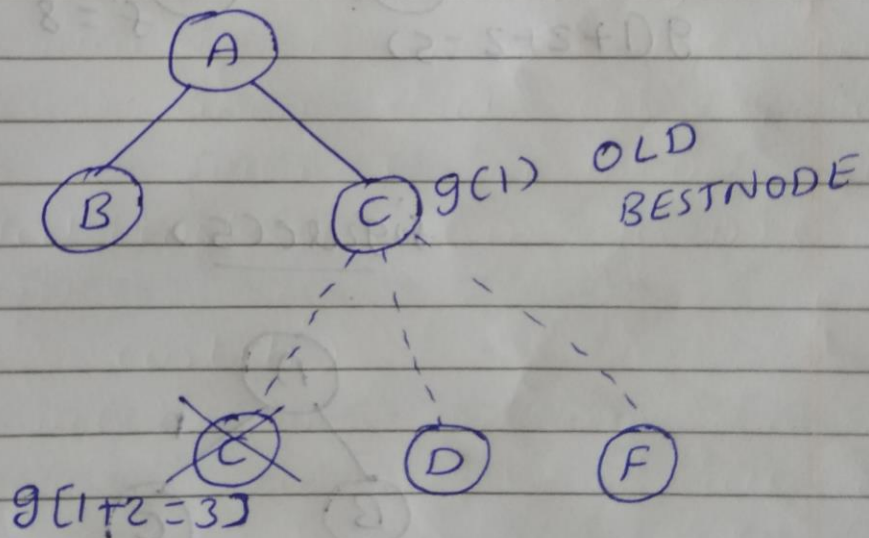


figure 3 (a)

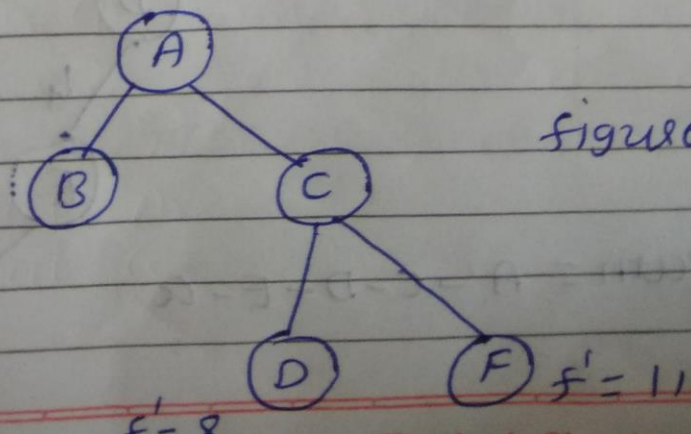
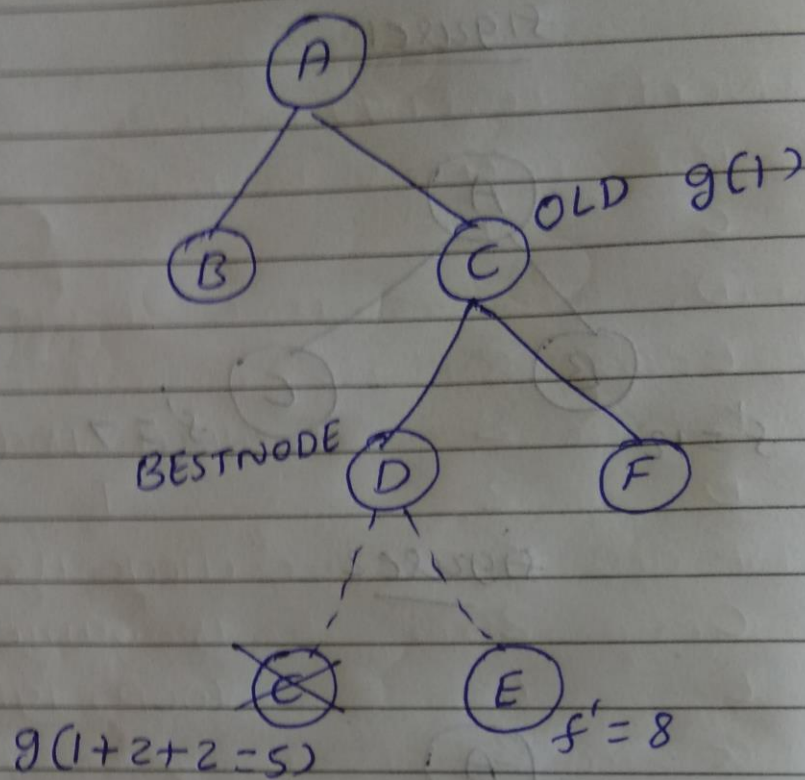


figure 3 (b)

figure(4)



figure(5)

