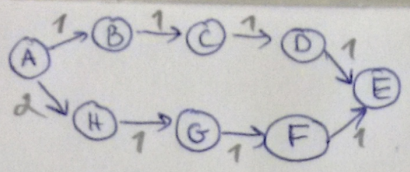
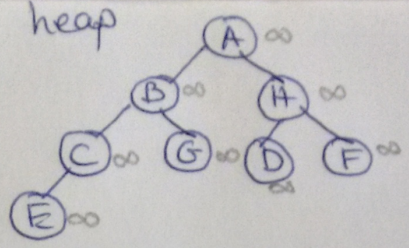
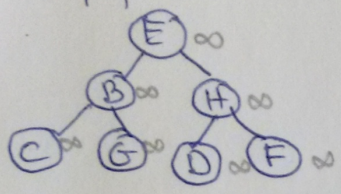


heap

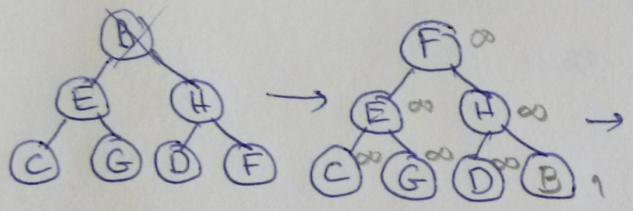


1. Key[A] = 0 as we want it to be the starting vertex

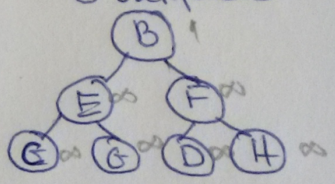
- pop A



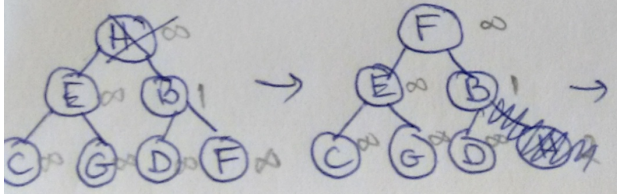
- for (A,B)
  a. remove B
  b. Key B = min{∞; key[A] + (A,B)}
     = min{∞, 0+1} = 1
  c. re-insert B in heap



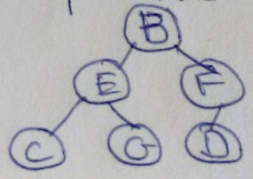
B surfaces



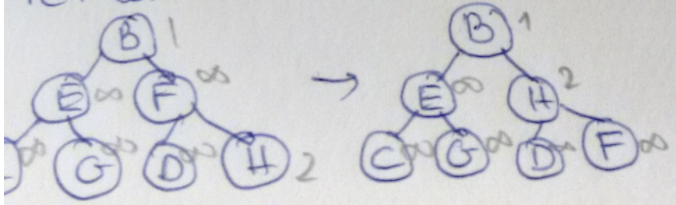
- for (A,H)
  a. remove H
  b. Key H = min{∞, key[A] + (A,H)}
     = min{∞, 0+2} = 2
  c. re-insert H



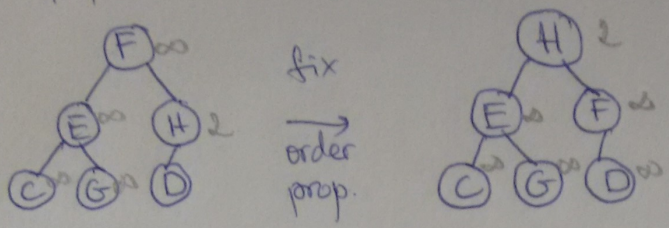
re-arrange heap to preserve order property



re-insert H

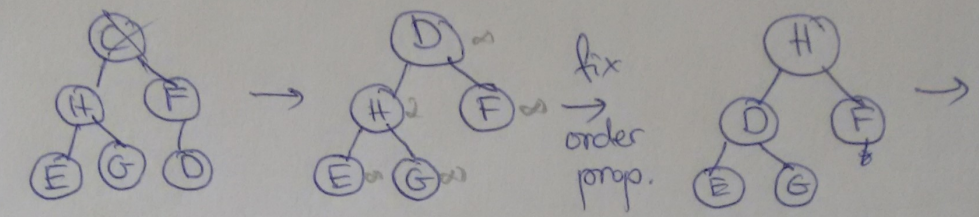


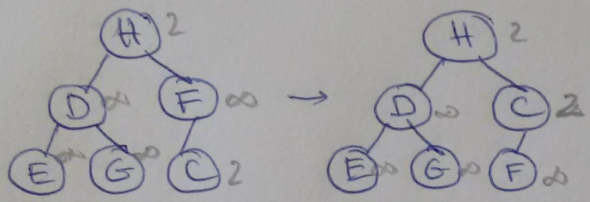
2. pop B



A	B
0	1

for (B, C)
a. remove C
b. key[C] = 2
c. re-insert C

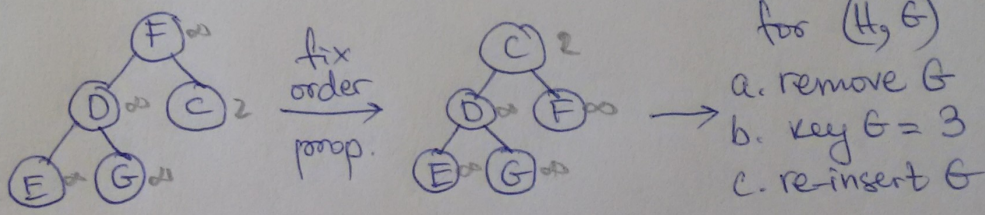


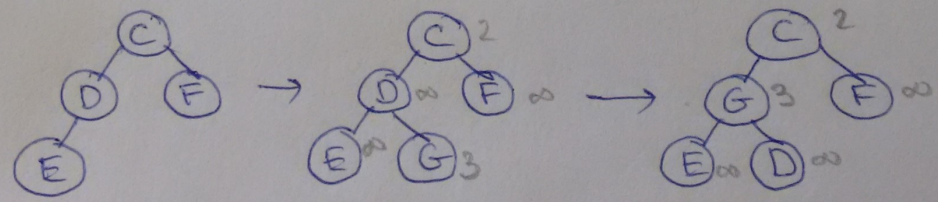


3. pop H

A	B	H
0	1	2

for (H, G)
a. remove G
b. key G = 3
c. re-insert G

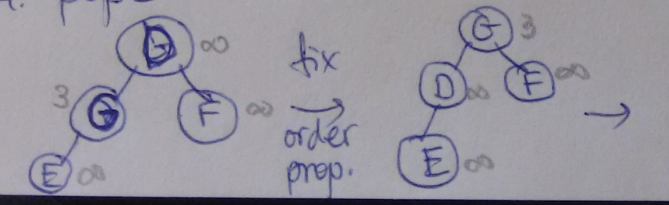


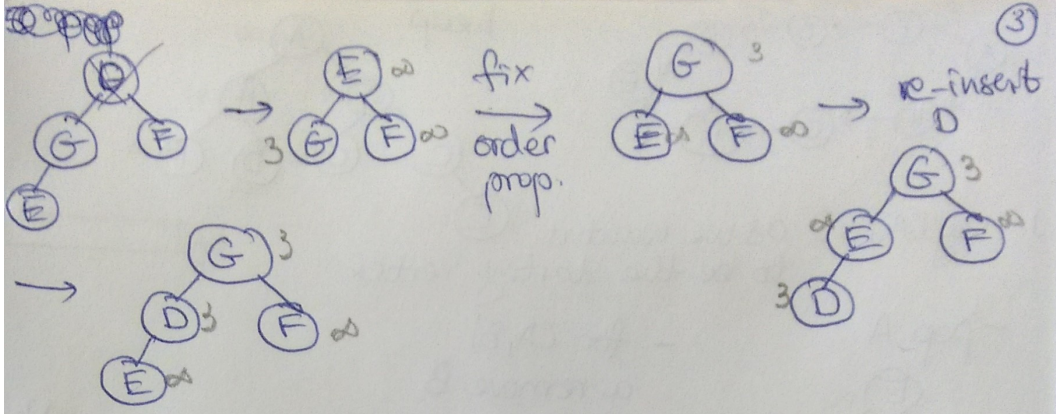


4. pop C

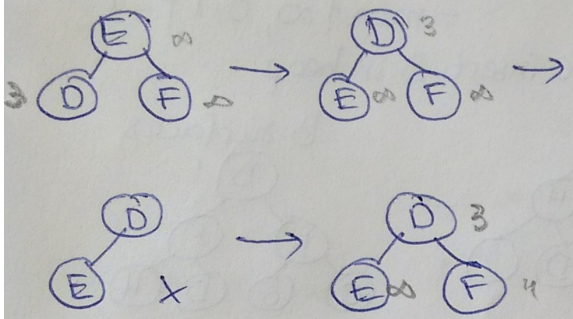
A	B	H	C
0	1	2	2

for (C, D)
a. remove D
b. key D = 3
c. re-insert D





5. pop G



A	B	H	C	G	
0	1	2	2	3	

for (G,F)

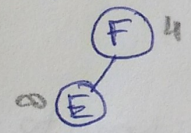
a. remove F

b. keyF = min{∞, ~~key~~G] + 1} =
= min{∞, 3+1} = 4

c. re-insert F

6. pop D

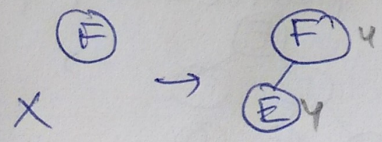
A	B	H	C	G	D
0	1	2	2	3	3



for (D,E)

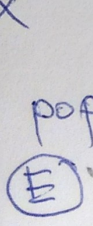
a. remove E

b. keyE = min{∞, keyD + 1} =
· min{∞, 3+1} = 4



7. pop F

A	B	H	C	G	D	F
0	1	2	2	3	3	4



for (F,E)

a. remove E

b. keyE = min{4, keyF+1} = min{4, 5} = 4

c. re-insert E

8. pop E

A	B	H	C	G	D	F	E
0	1	2	2	3	3	4	4