

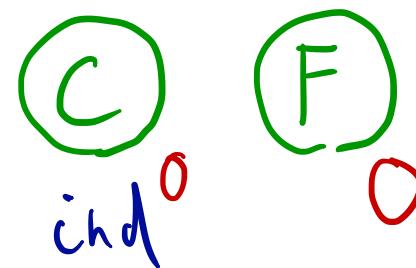
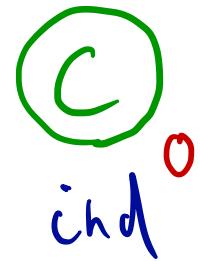
insert BasicItem (ind, "C")



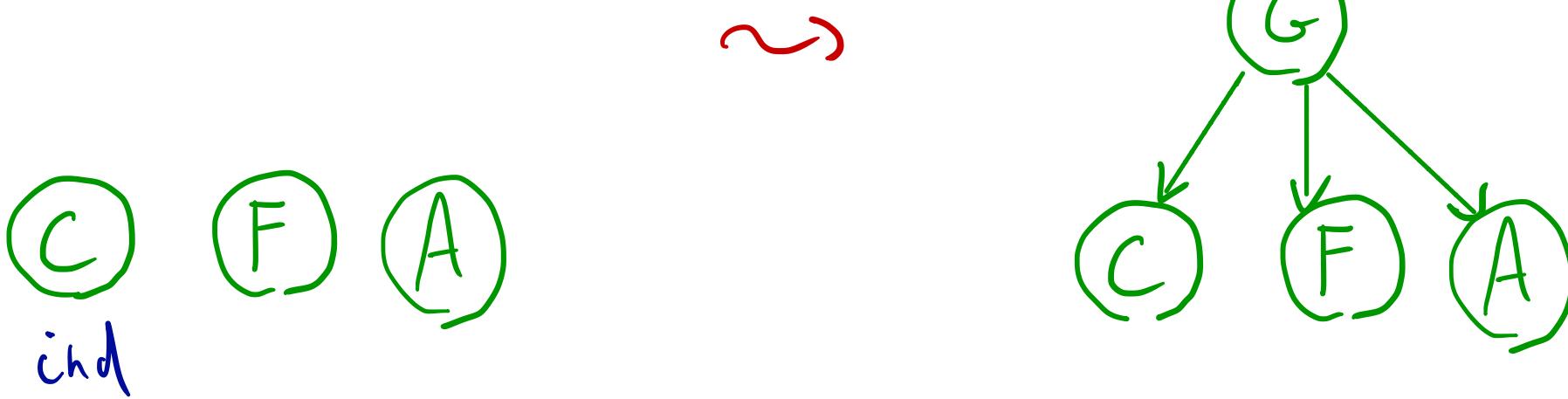
ind

C  
O  
ind

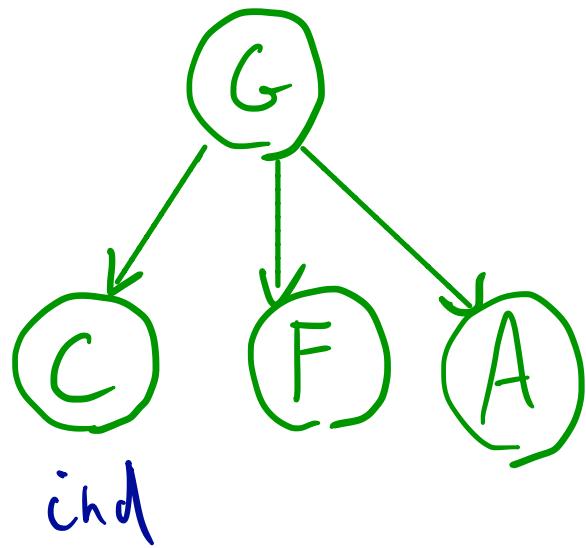
insert BasicItem (ind, "F")



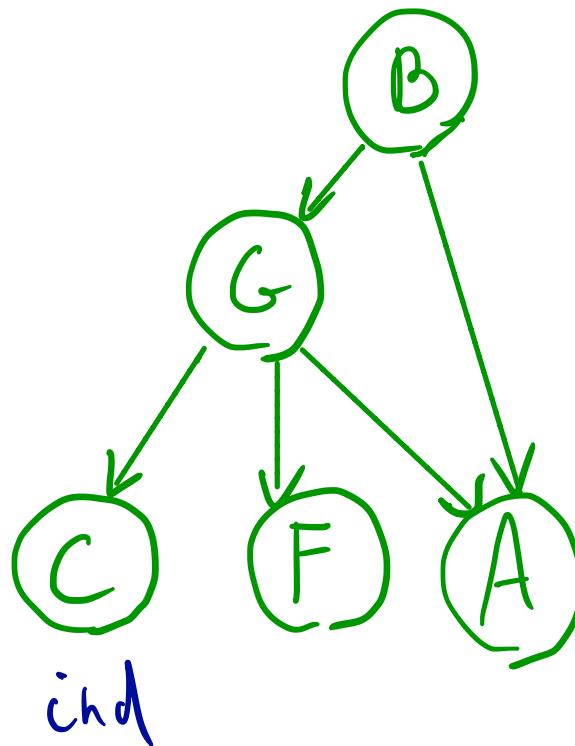
`insertItem(ind, "G", comp, 3)` on `comp = {"F", "C", "A"}`



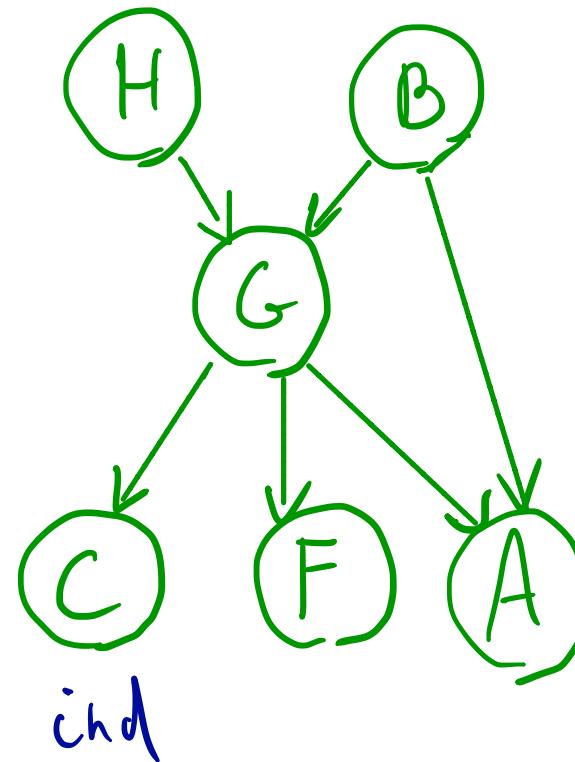
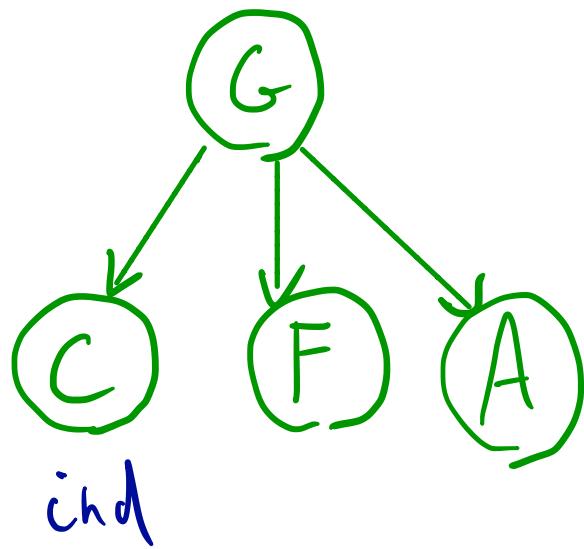
insertItem(ind, "B", comp, 2) con comp = {"A", "G"}



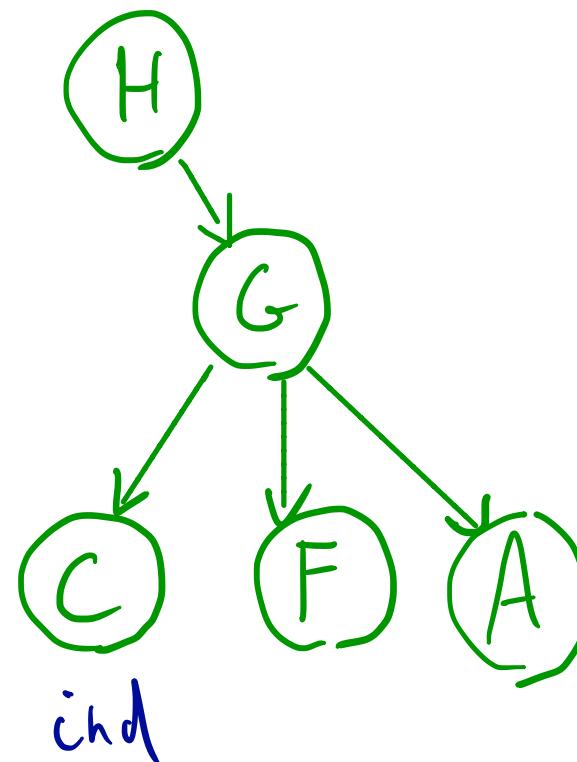
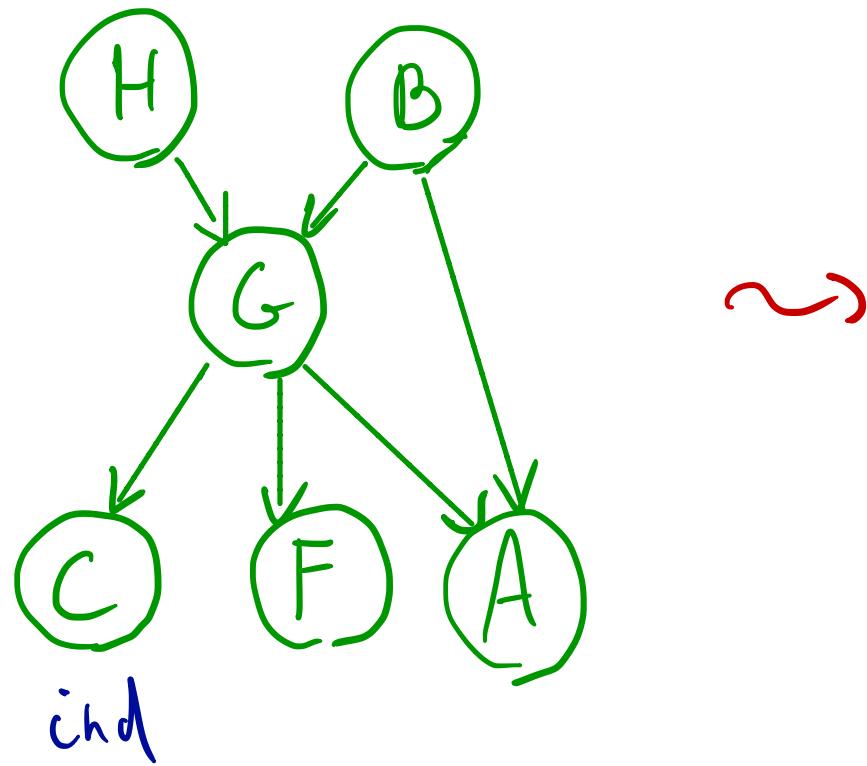
~



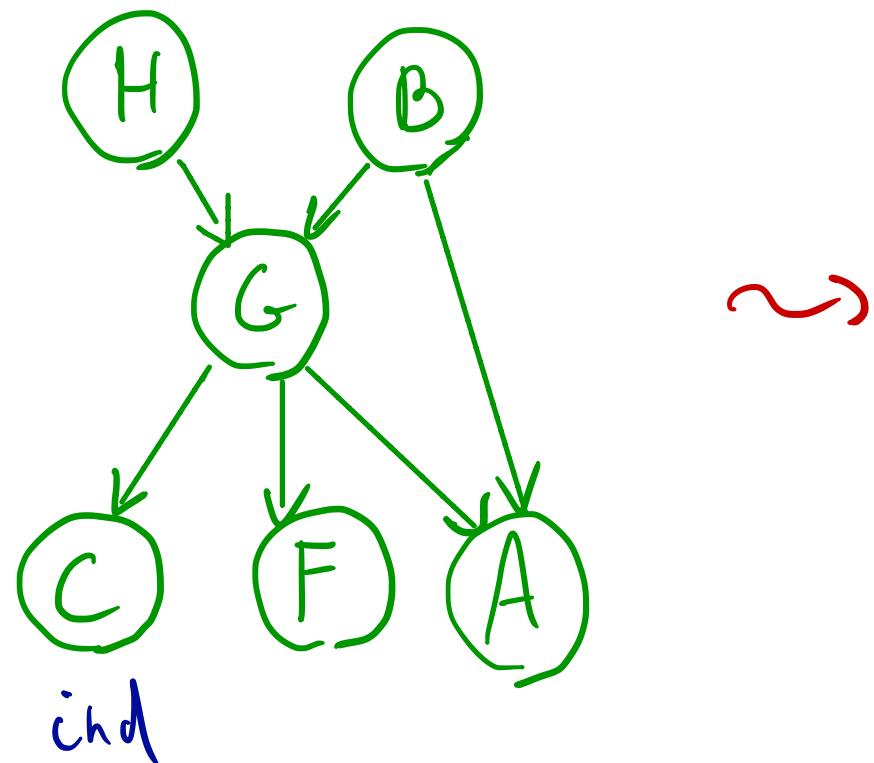
`insertItem(ind, "H", comp, 1) con comp = {"G"}`



`removeItem(ind, "B")`



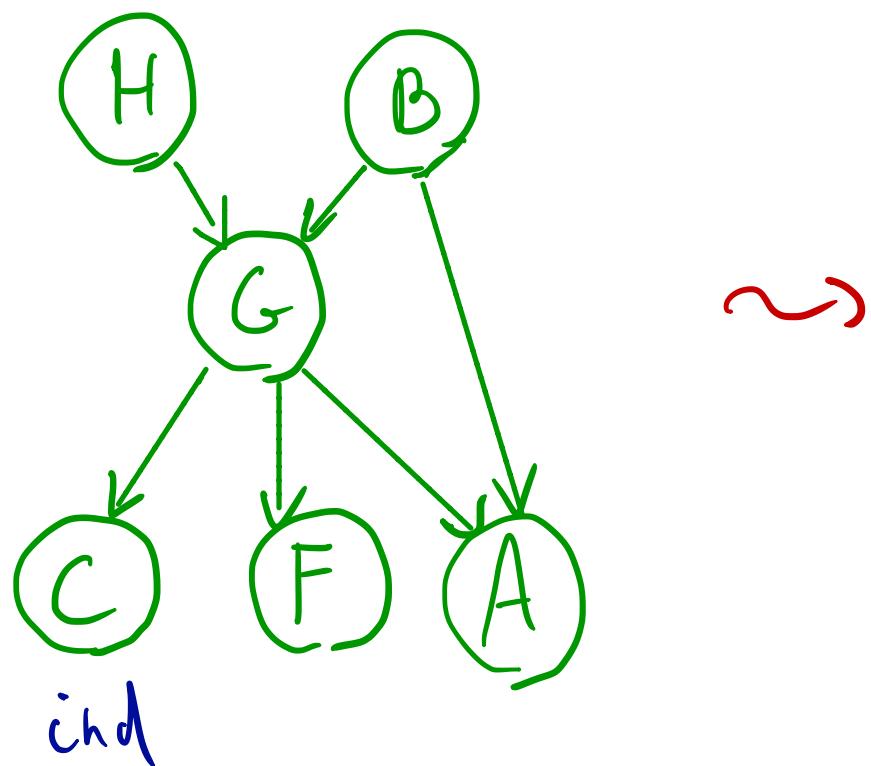
`removeItem(ind, "G")`



~



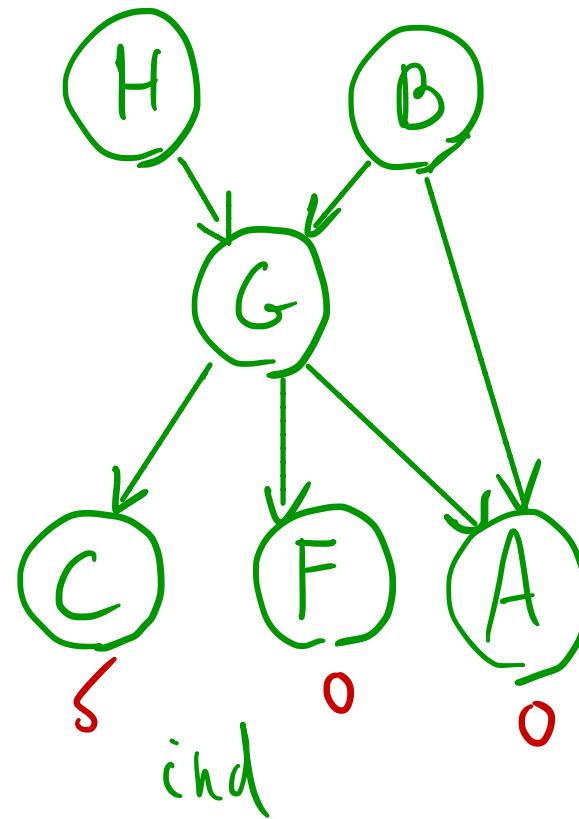
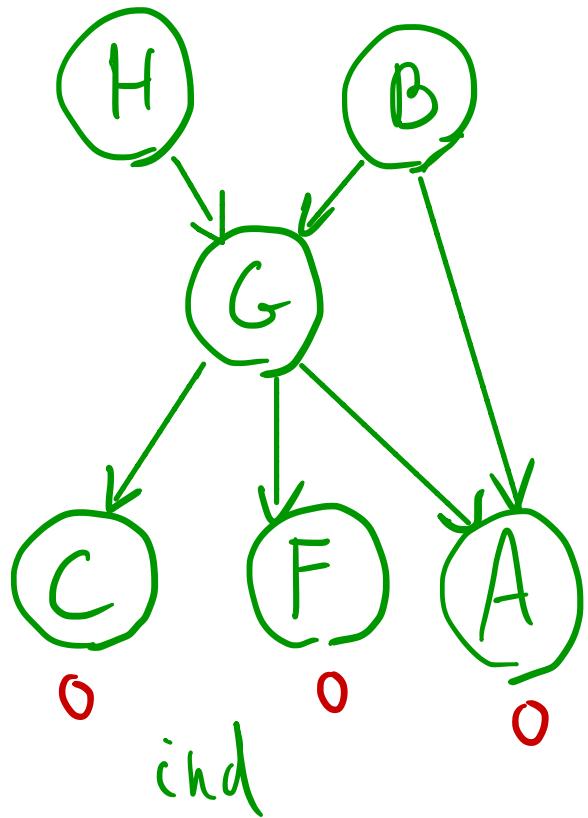
removeItem(ind, "C")



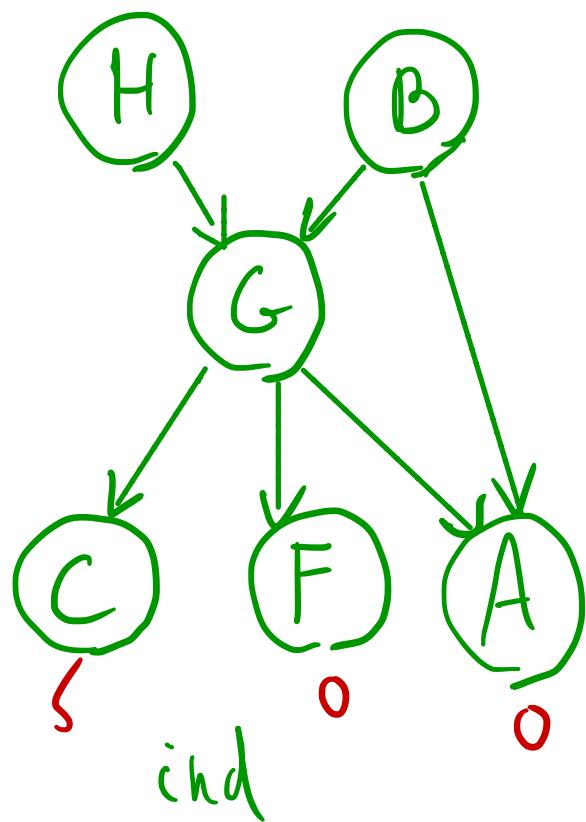
?



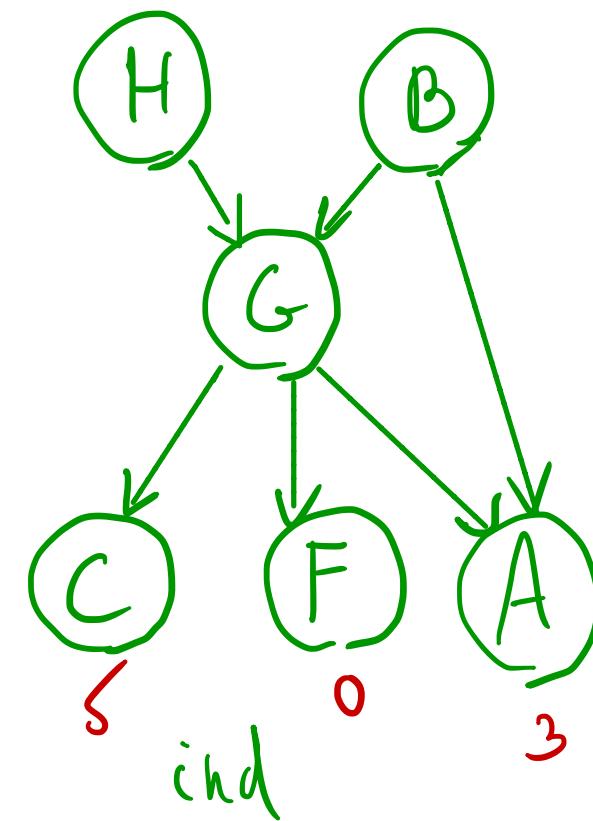
addBasicItem(ind, "C", S)



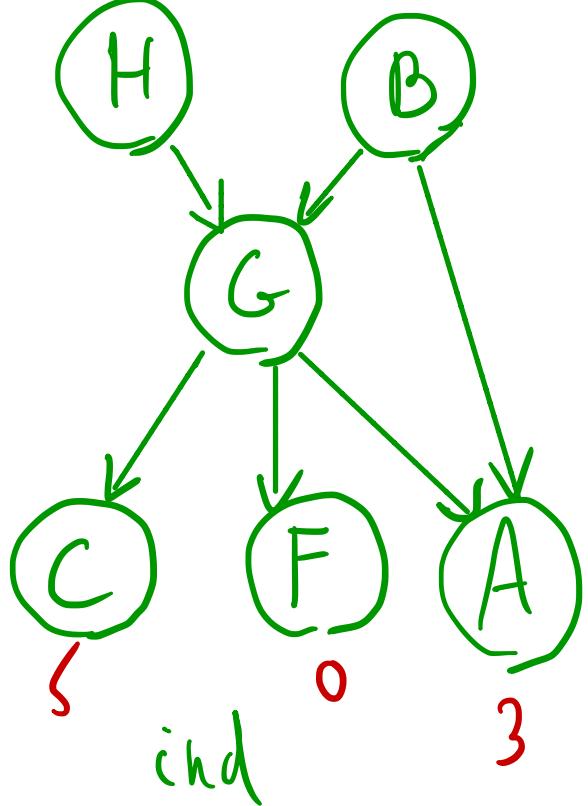
addBasicItem(ind, "A", 3)



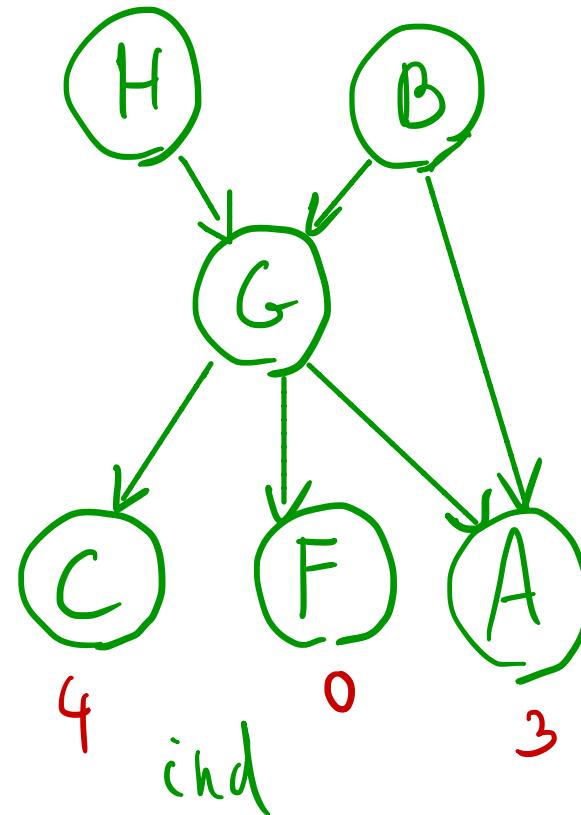
?



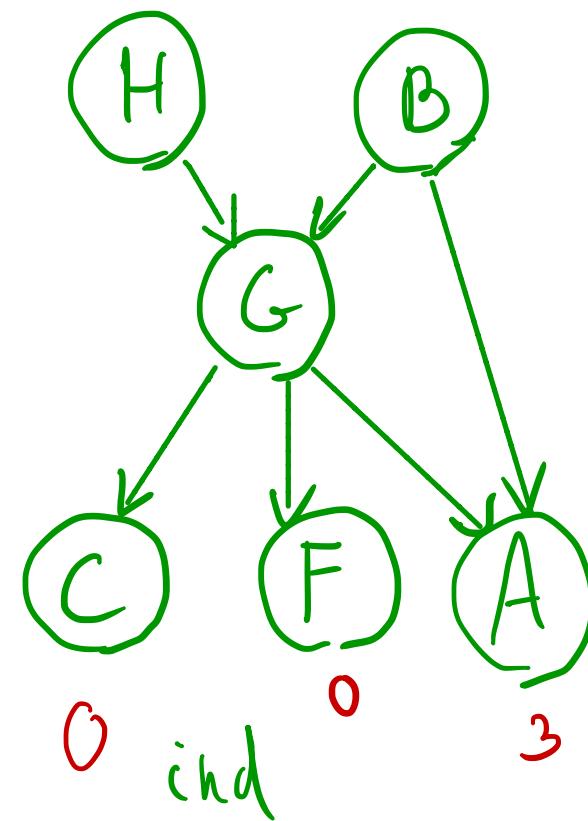
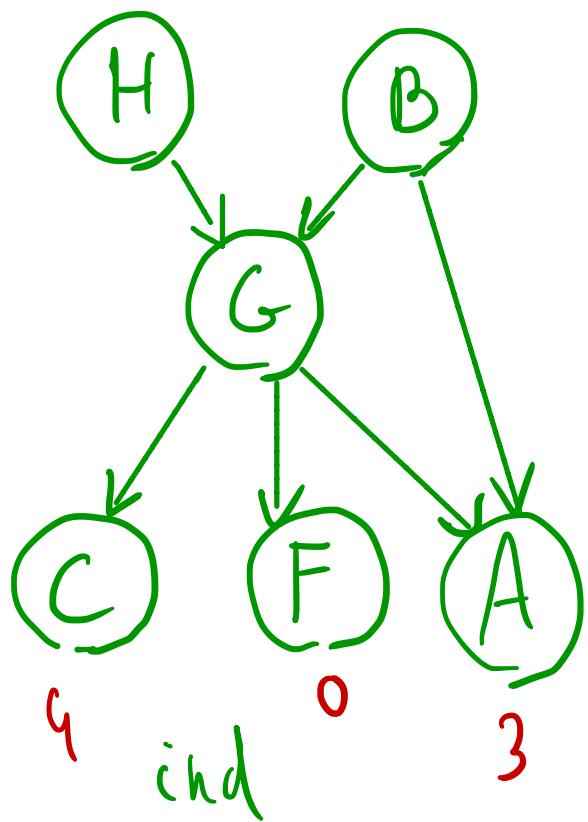
addBasicItem(ind, "C", -1)



?



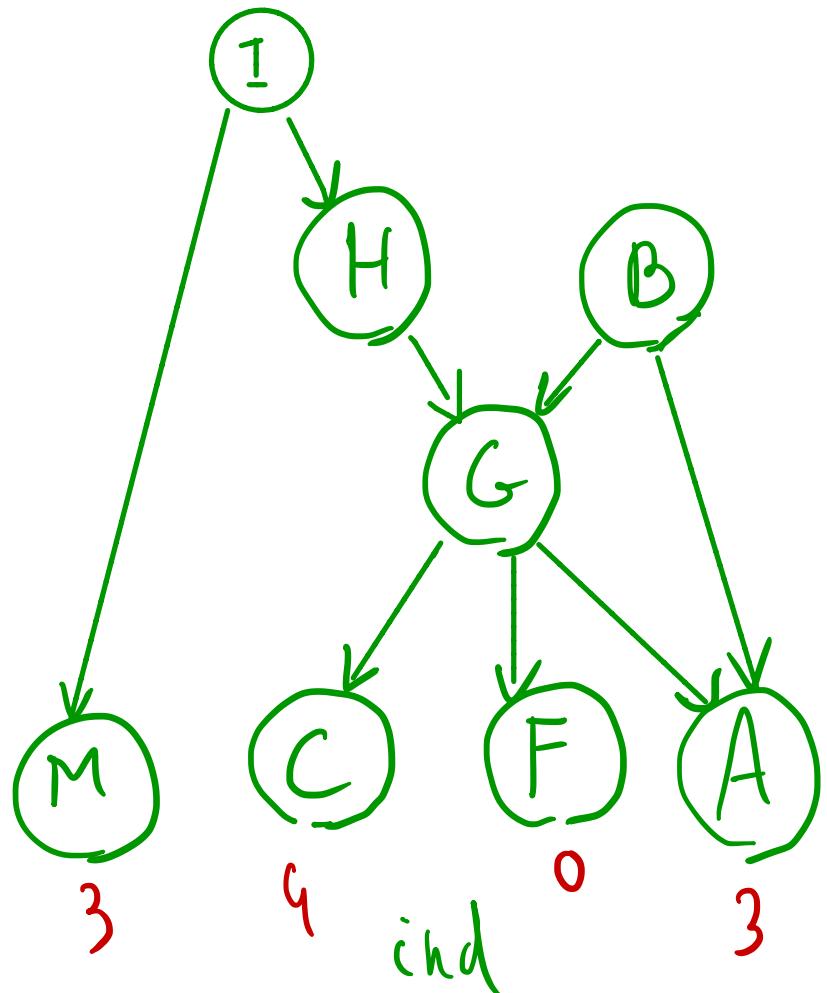
`addBasicItem(ind, "C", -6)`



listNeed(ind, "A", li);

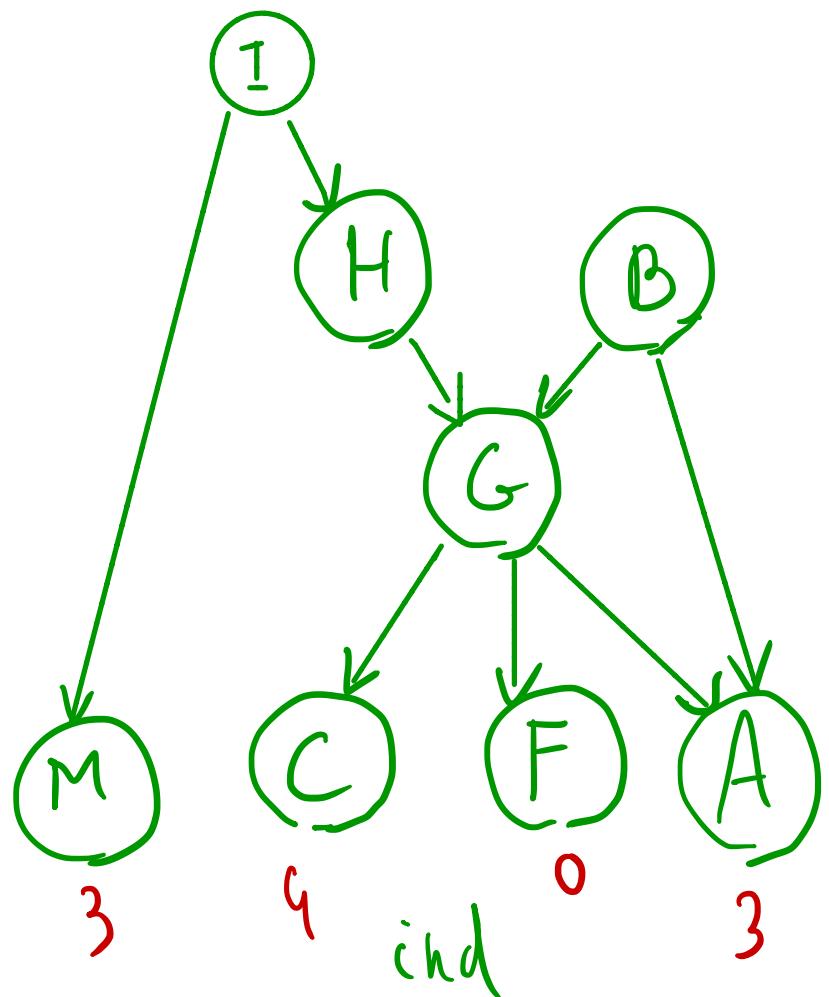
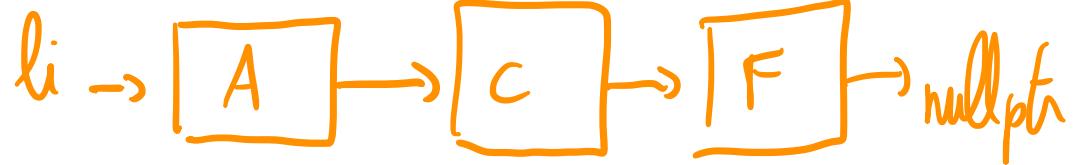
}

li = nullptr



listNeed(ind, "G", li);

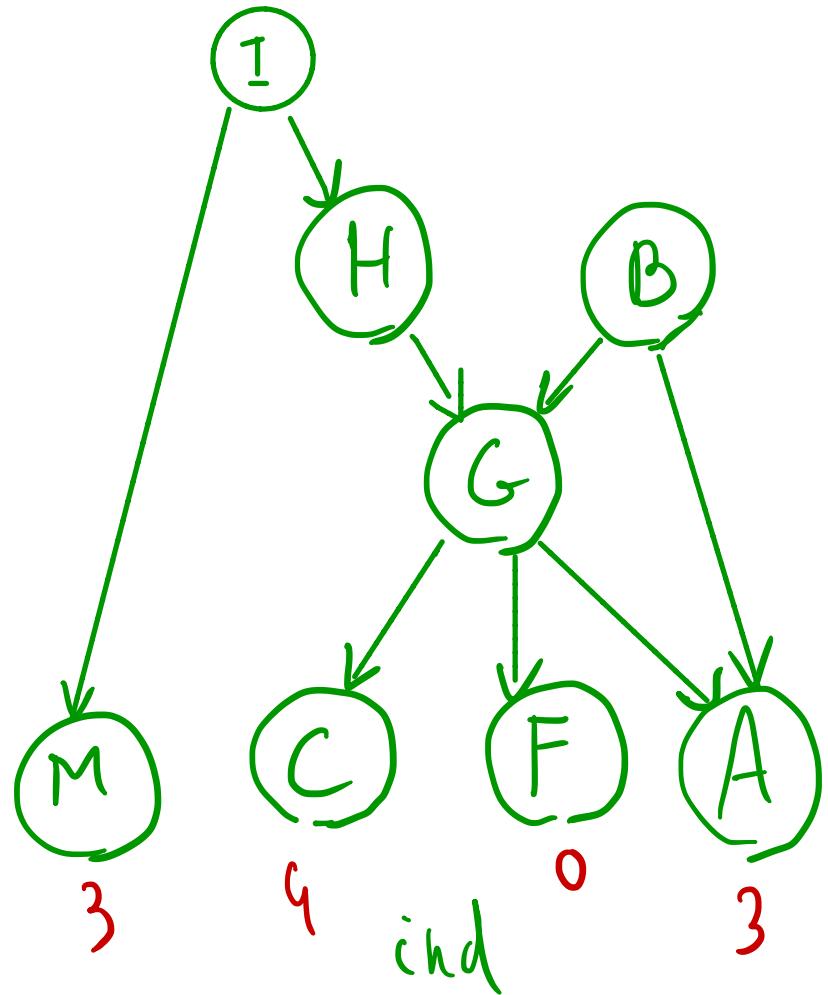
}

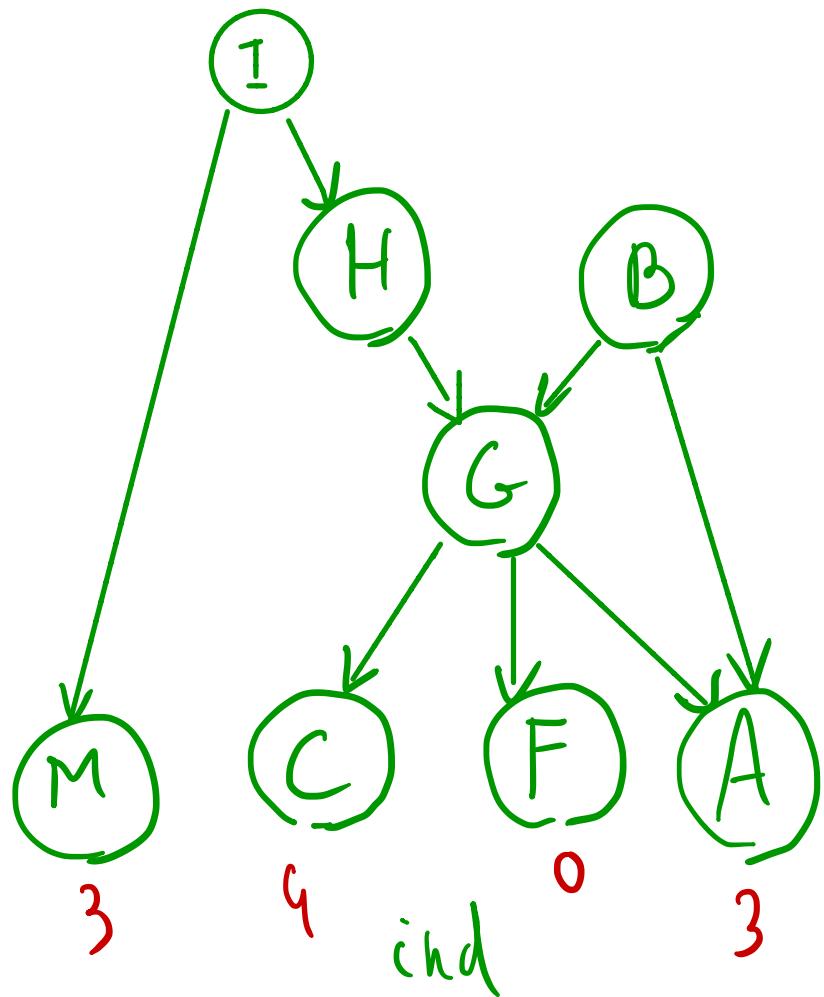


listNeed(ind, "B", li);

}

li → [A] → [G] → nullptr

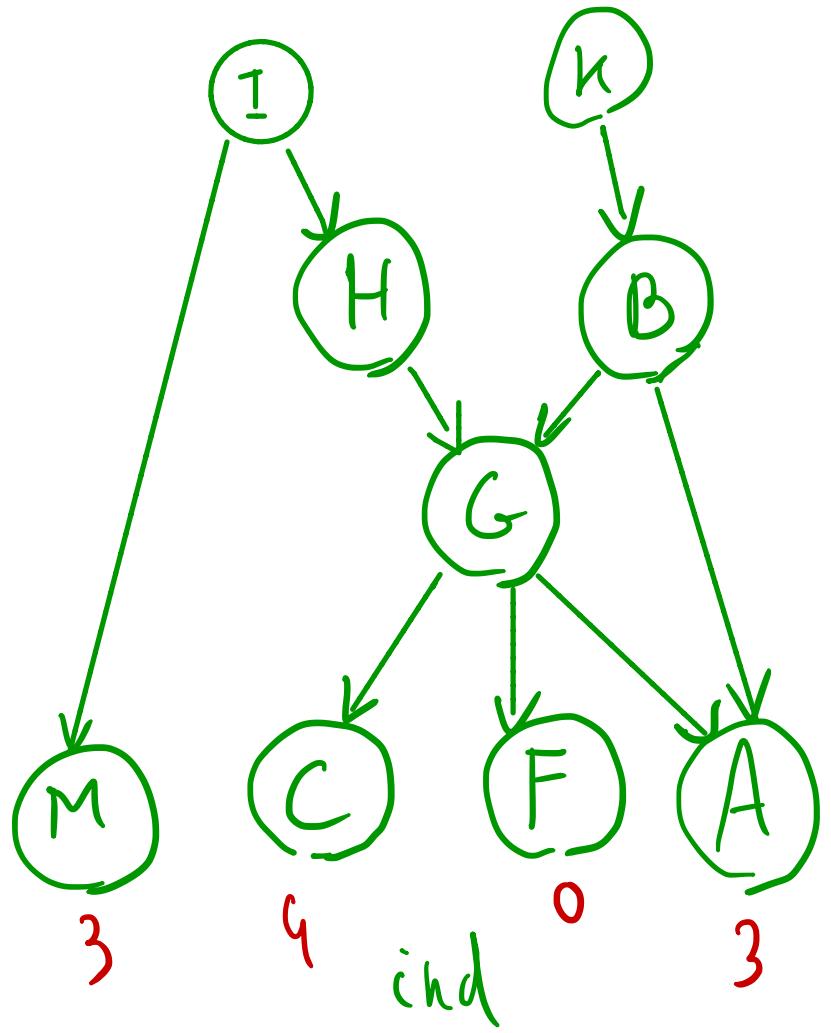




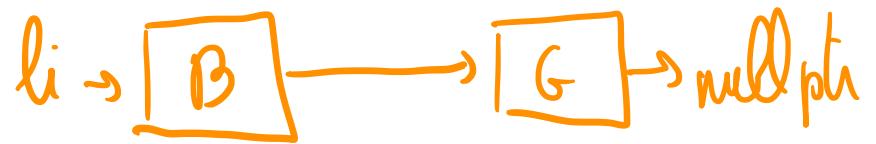
listNeededBy(ind, "B", li);

}

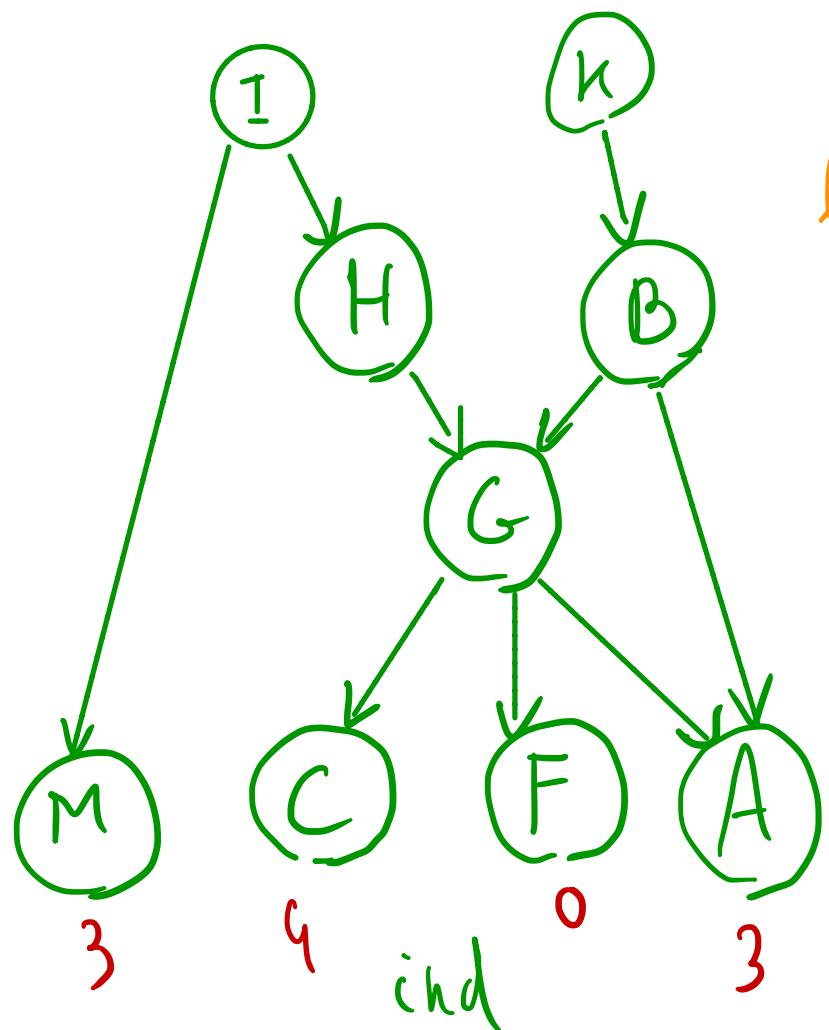
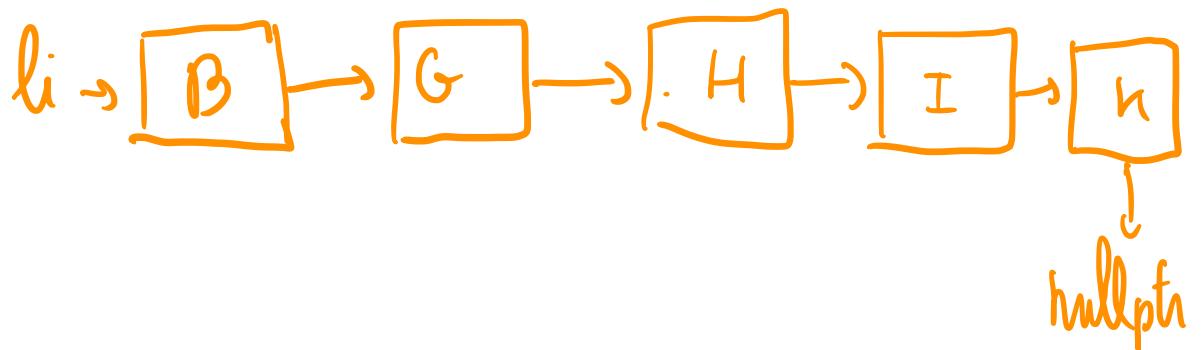
li = nullptr

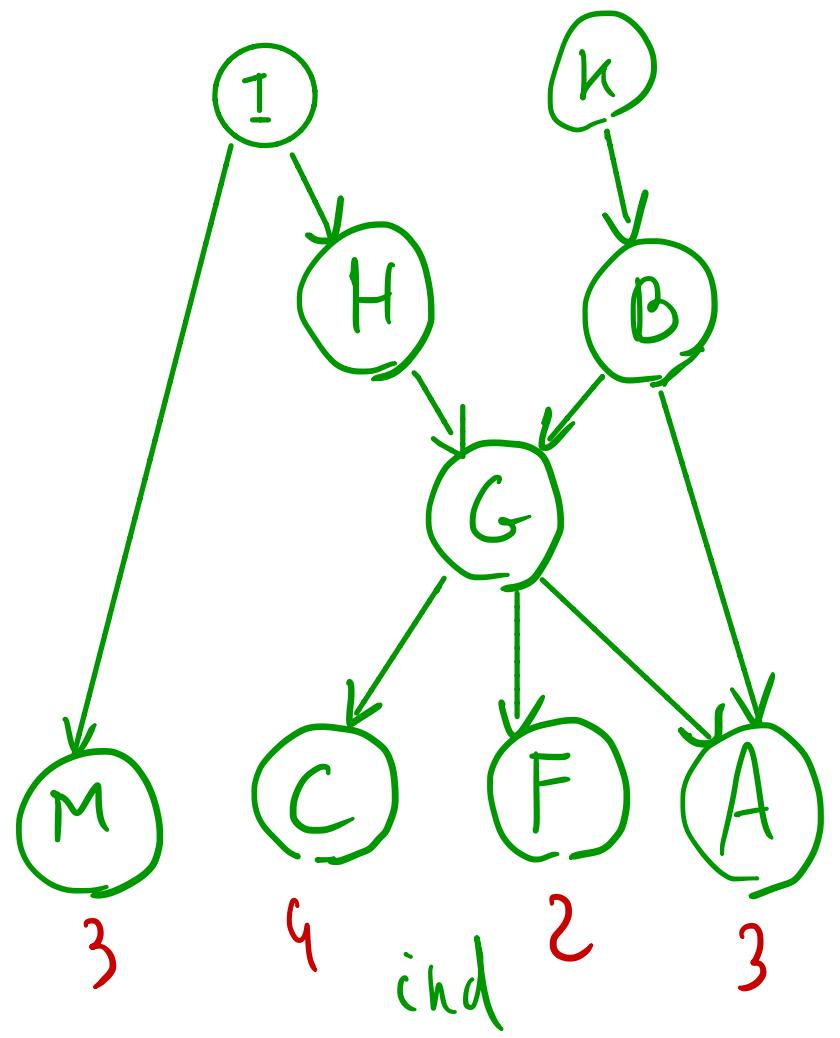


`listNeededBy(ind, "A", li);`



listNeededByChain(ind, "A", li);

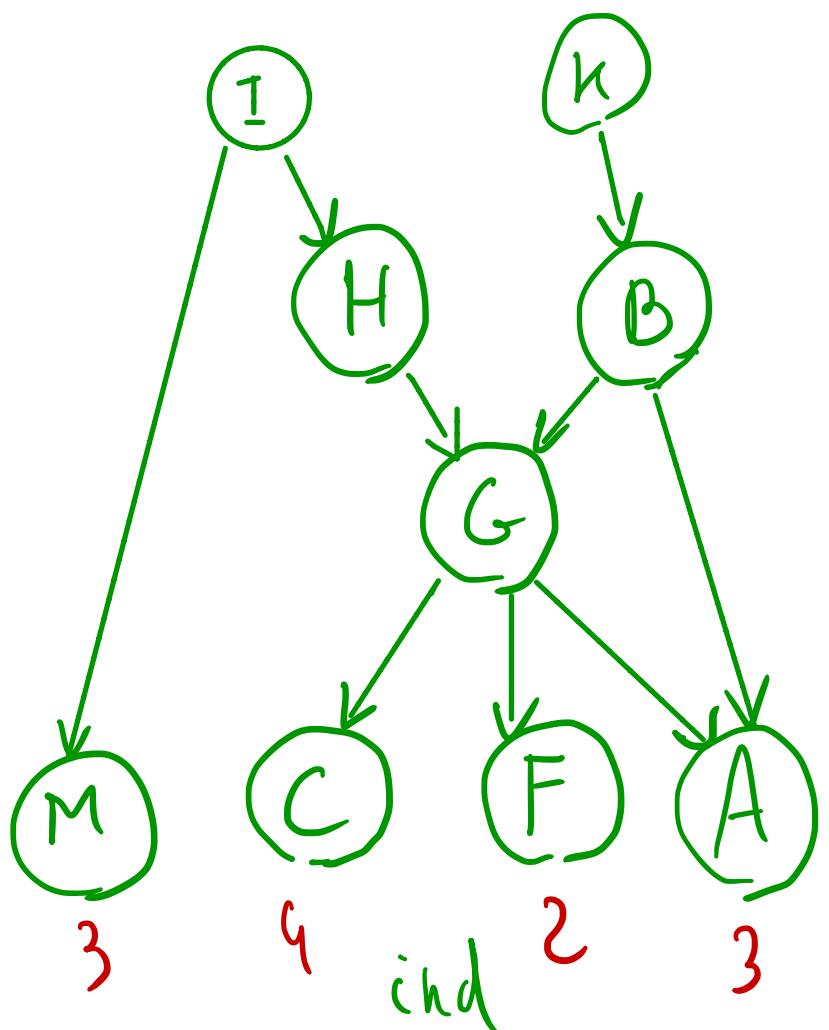




howManyItem(ind, "C", n)

)

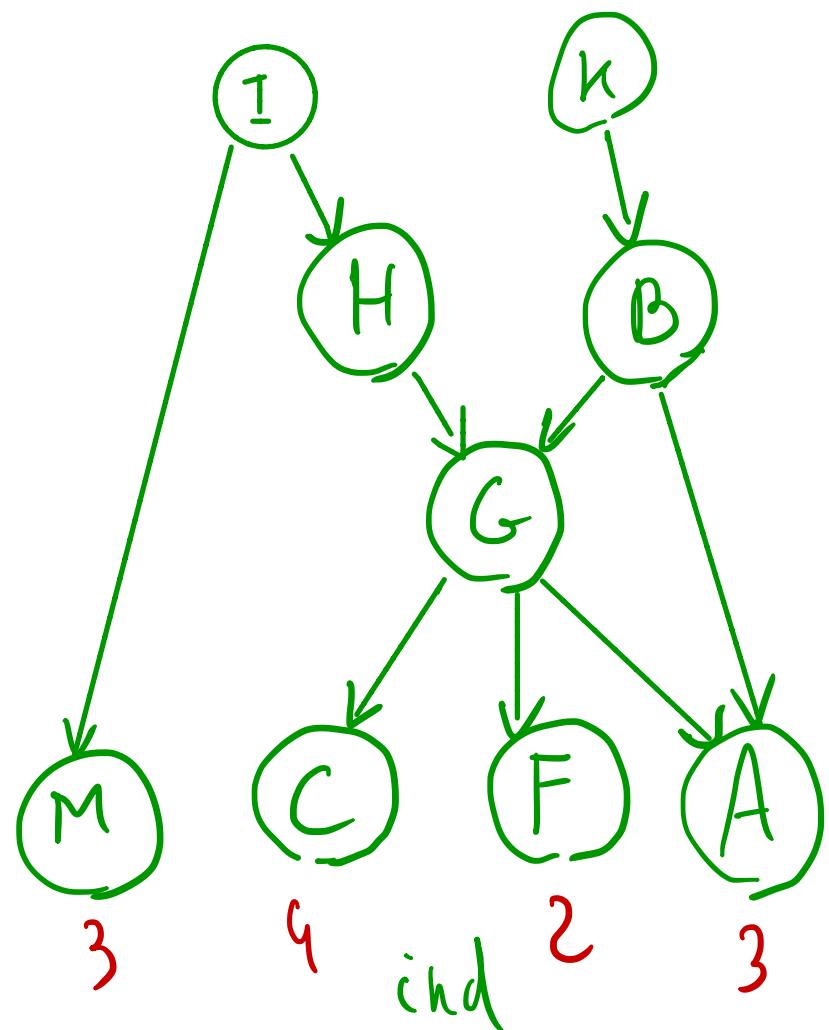
$$n = 9$$



howManyItem(ind, "n", n)

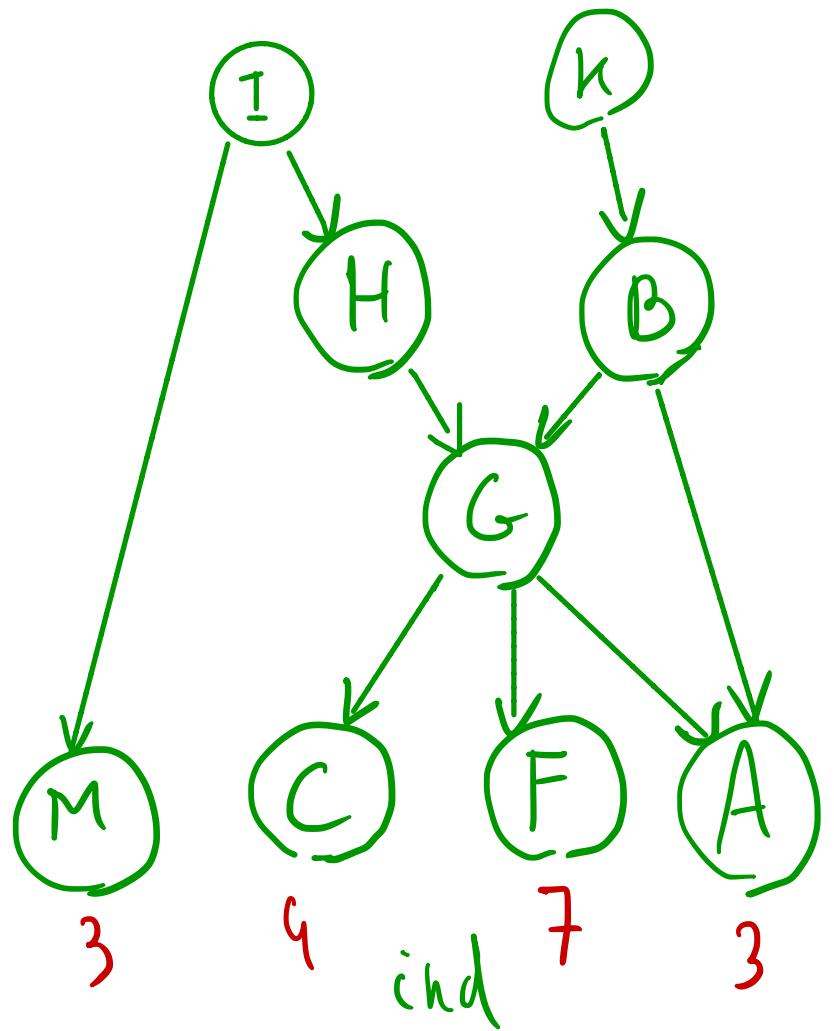


$$n = 3$$



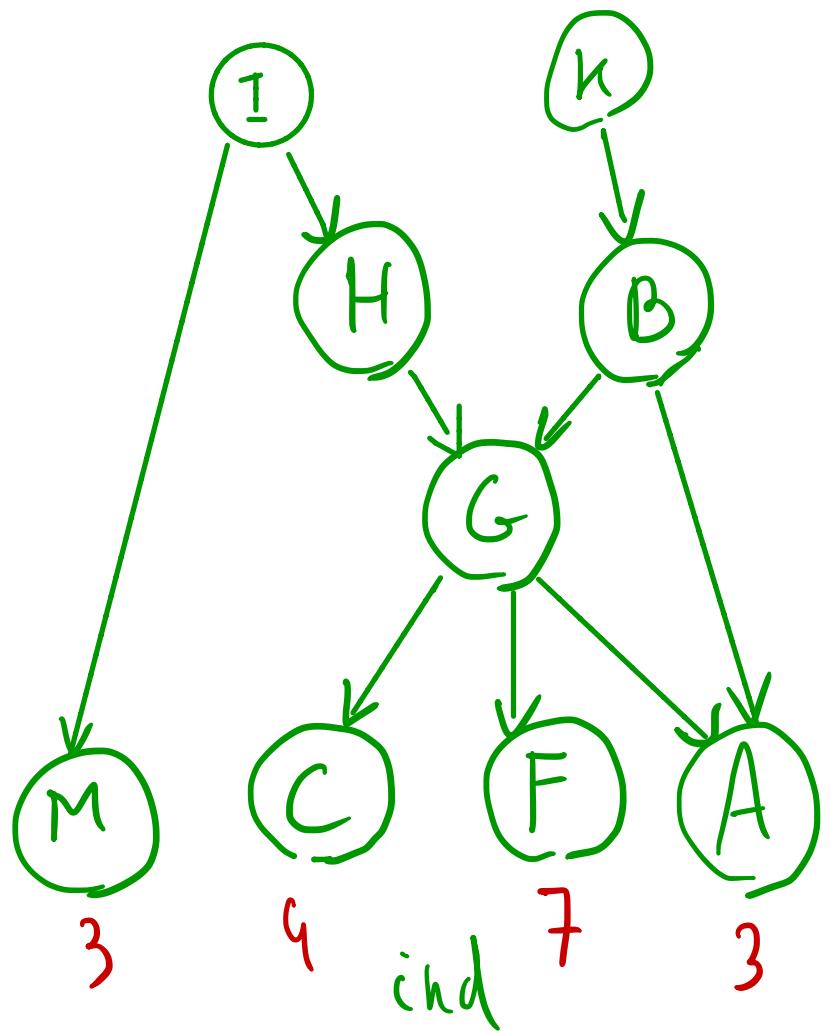
howManyItem(ind, "G", n)

$$n = 2$$



howManyItem(ind, "G", n)

$$n = 3$$



howManyItem(ind, "B", n)

}

$$n = 1$$

↳ Ogni B ha bisogno di

1 A

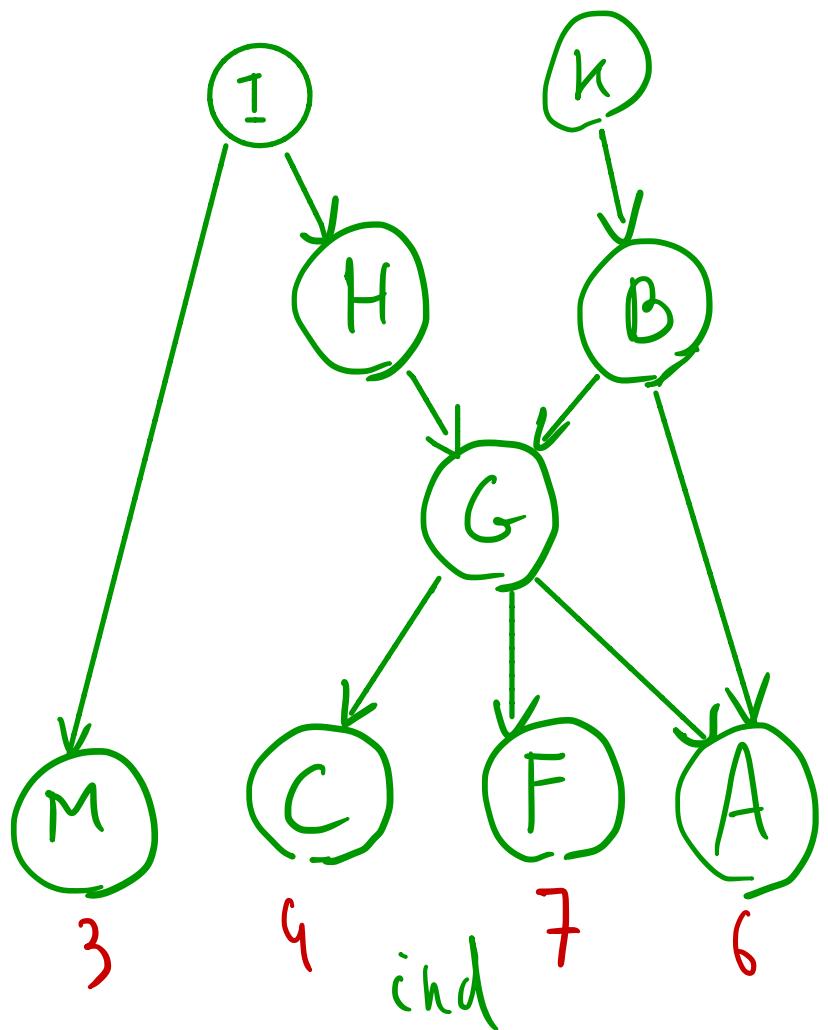
1 A

1 F

1 C

} per fare 1 B

$$\begin{aligned} & 2 A \\ & 1 F \\ & 1 C \end{aligned} = 1 F$$



howManyItem(ind, "B", n)



$$n = 3$$

↳ Ogni B ha bisogno di

1 A

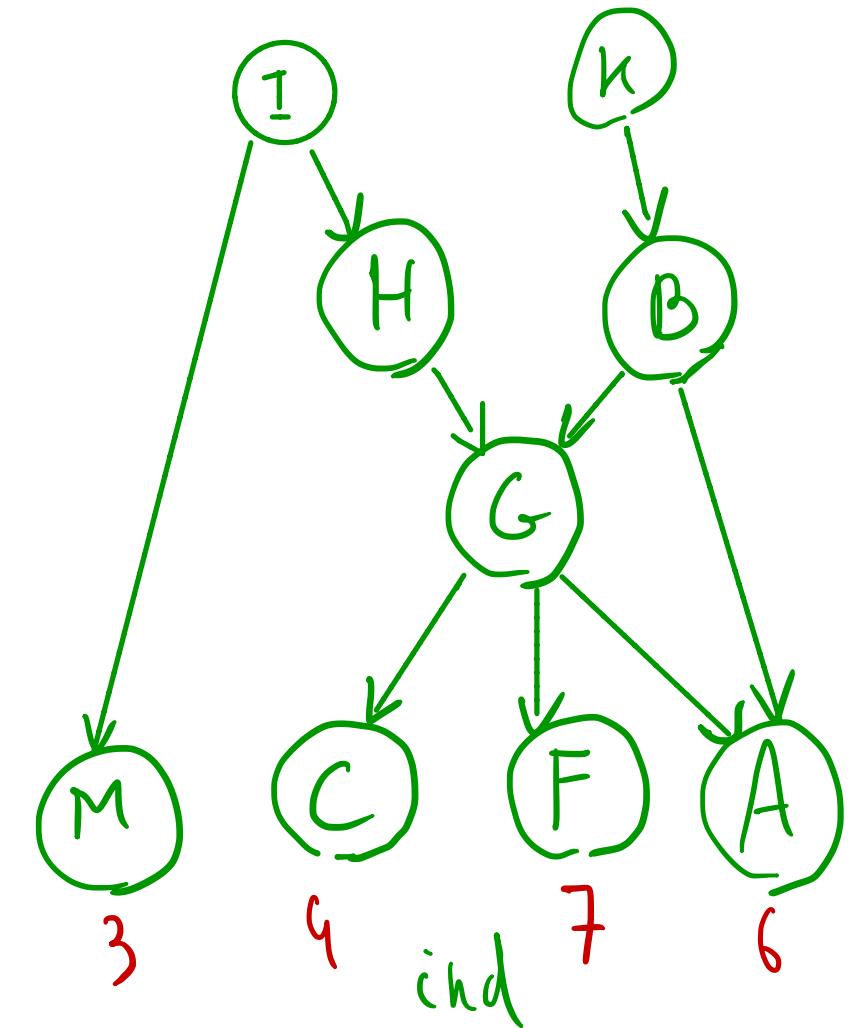
1 A

1 F

1 C

} per fare 1 B

$$\begin{aligned}
 & 2 A \\
 & 1 F \\
 & 1 C
 \end{aligned}
 = 1 F$$

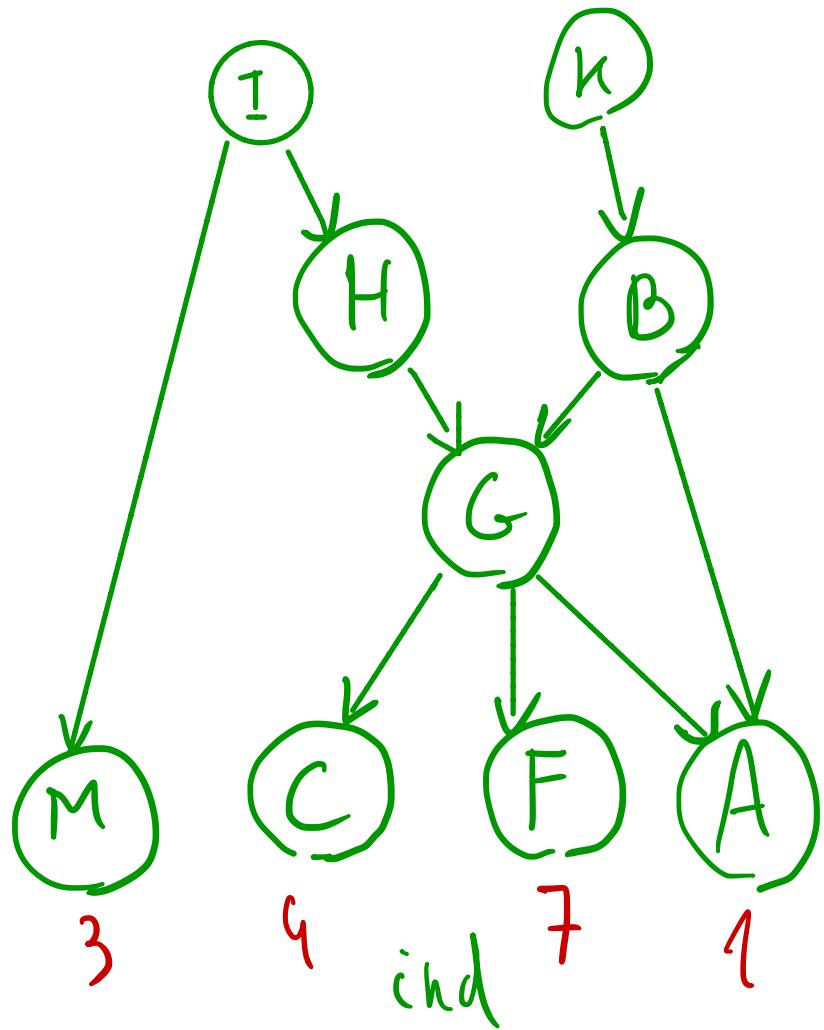


howManyItem(ind, "K", n)

$$n = 3$$

↳ Ogni K ha bisogno di

1 A	• 2 A
1 A } per fare 1 B	• 1 F
1 F }	1 C
1 C }	



howManyItem(ind, "B", n)

$$n = 0$$

↳ Ogni B ha bisogno di

1 A

1 A

1 F

1 C

} per fare 1 G

= 2 A  
1 F  
1 C