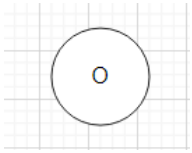
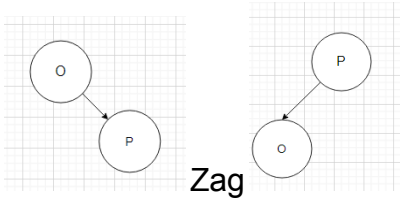
Justin Li
3/2/23

COEN 379 HW 7

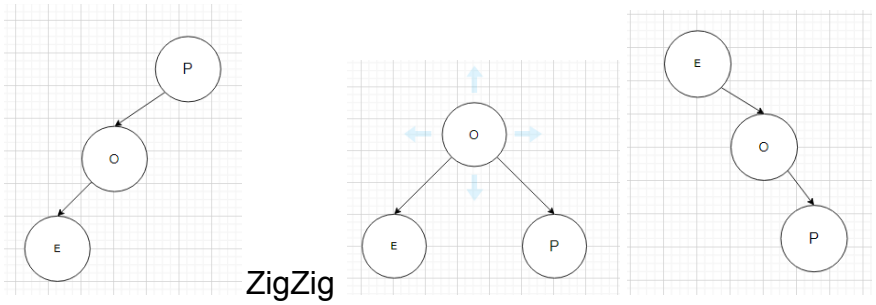
1. Splay Tree:
   Insert O:



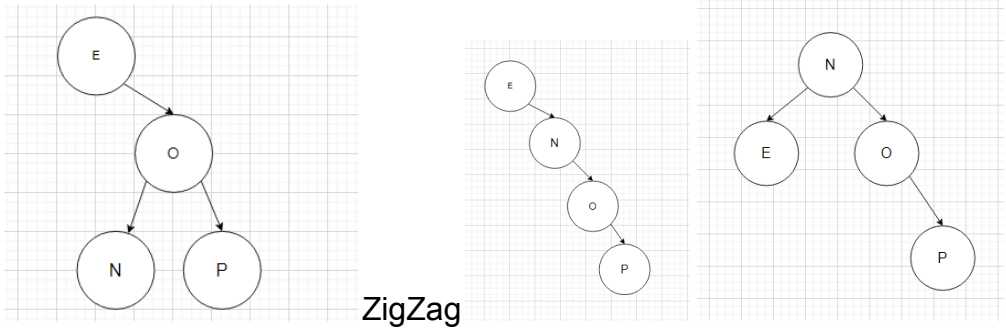
   Insert P:



   Insert E:



   Insert N:



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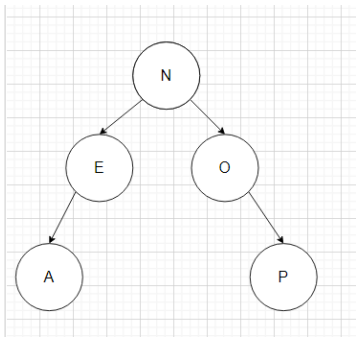

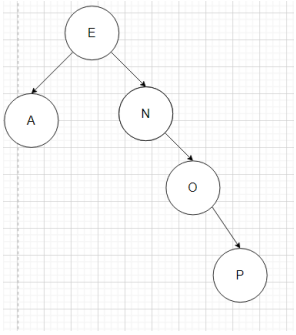

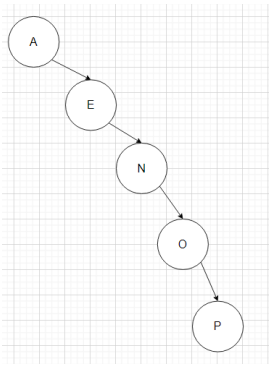

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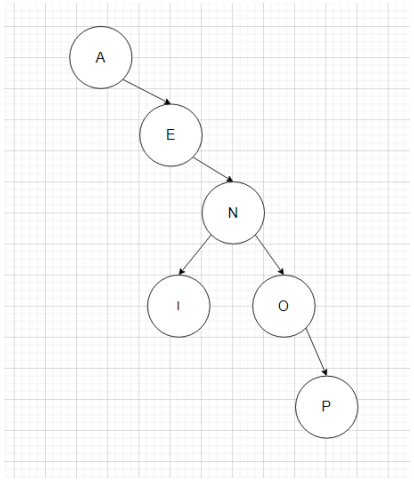

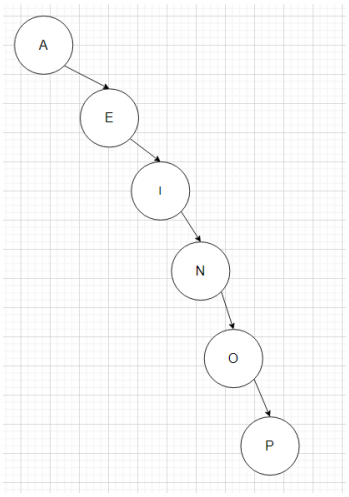

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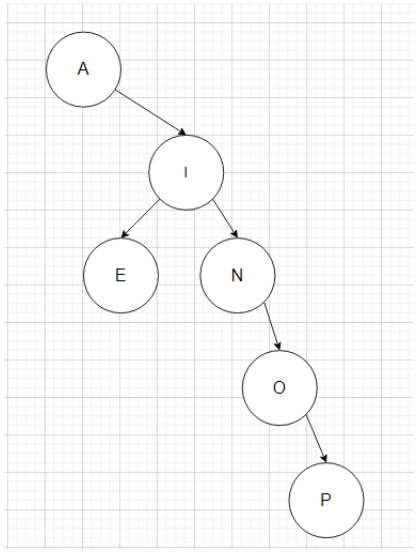

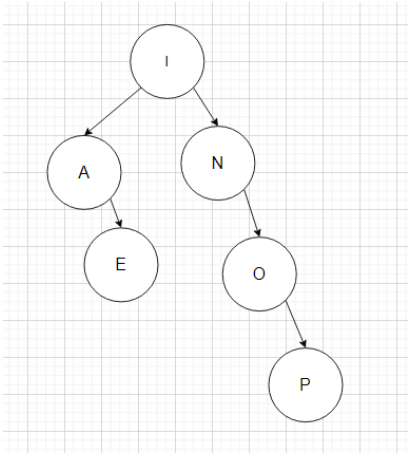

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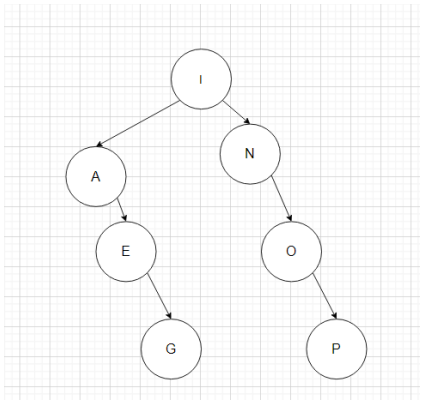

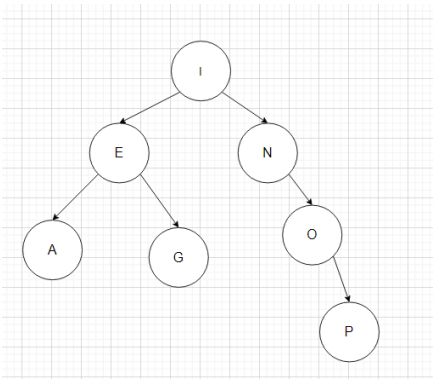

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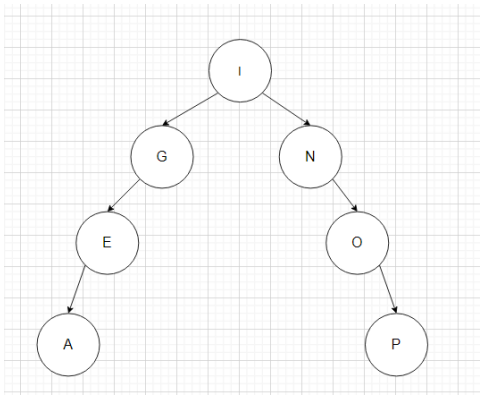

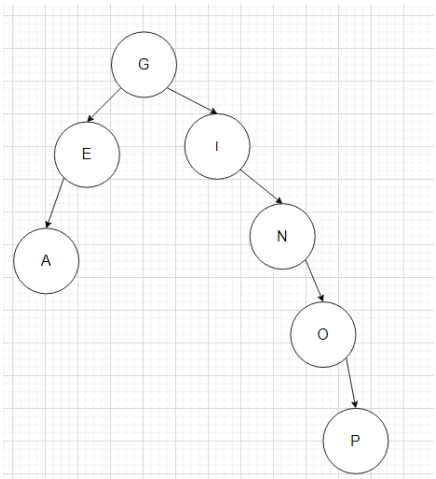

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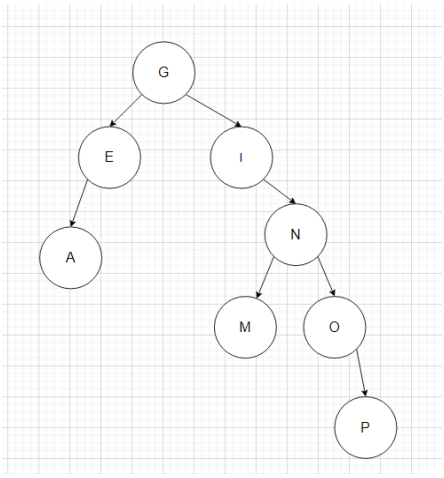

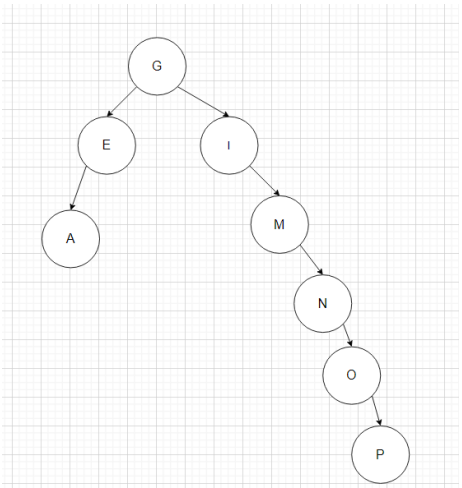

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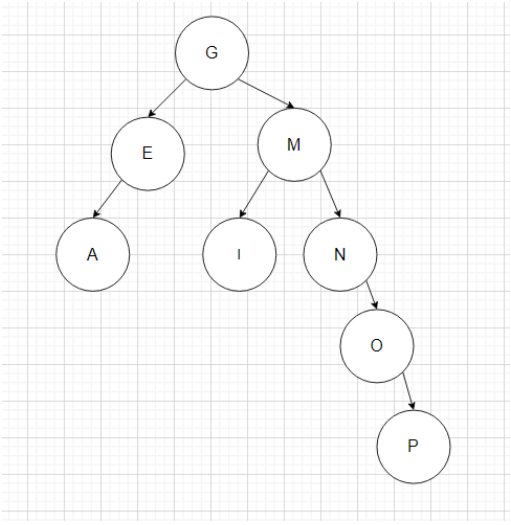

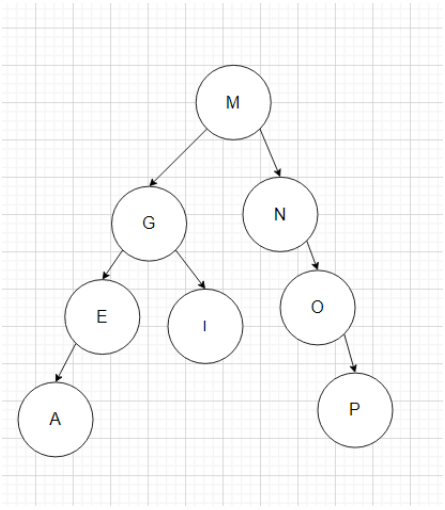

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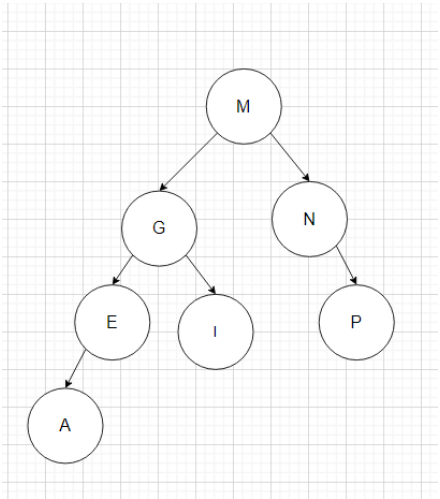
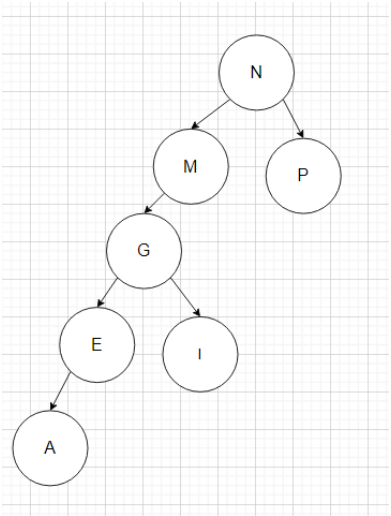
Deletion

Remove O:





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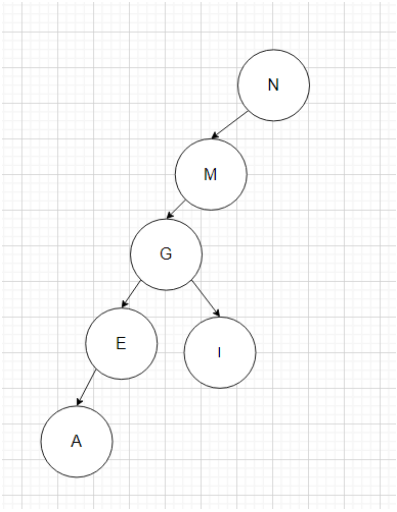

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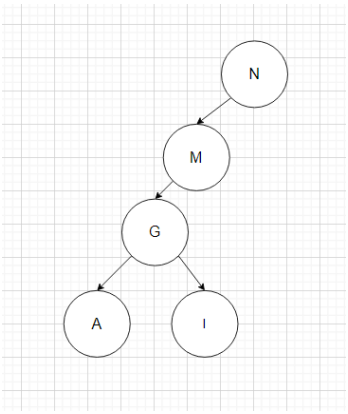

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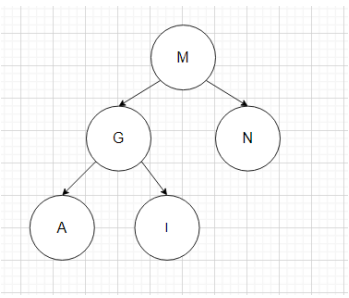

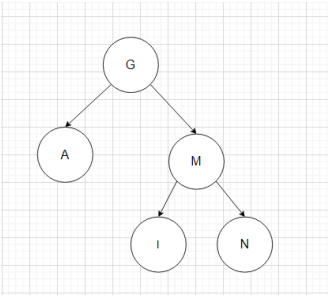

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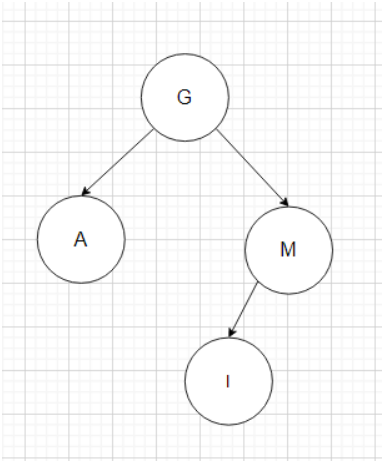

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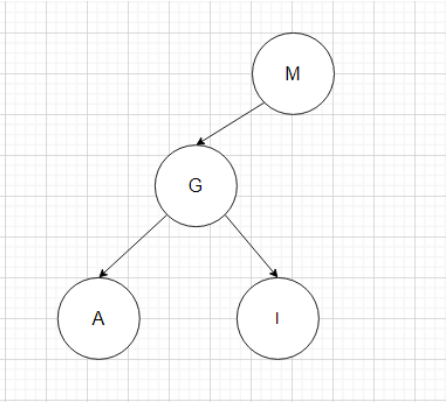
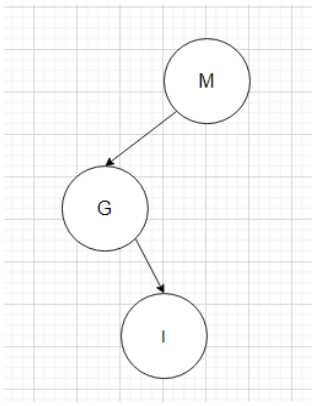
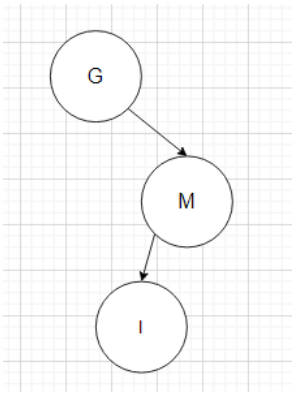


Remove A:





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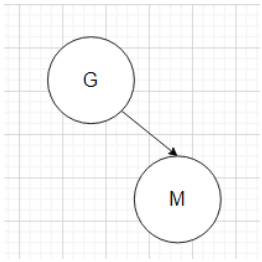
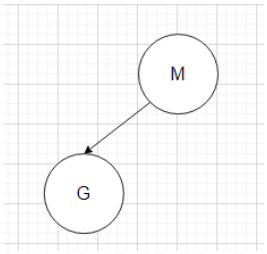
Remove I:





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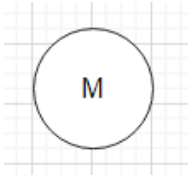
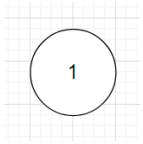
Remove G:



Remove M:

2. Yes

N = 1:



Height = 0

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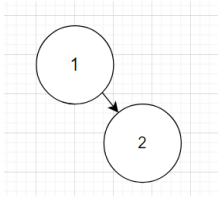

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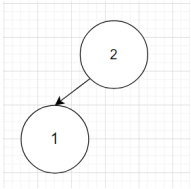
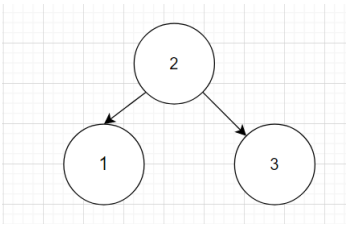


Height = 1

N = 3:



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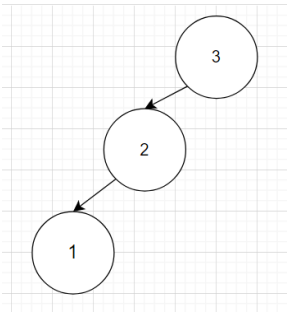

Height = 2

As you can see, if we continue adding incrementally, we will continue to increase the height by 1 in each step, causing the height to always equal n-1.