

## Problem 1:

$$1. \quad a = 0.1 \quad b = 0.25 \quad c = 0.05 \quad d = 0.15 \quad e = 0.3 \\ f = 0.07 \quad g = 0.08$$

Priority 2: 1.  $\begin{array}{r} c \\ 0.05 \\ + f \\ 0.07 \\ \hline g \end{array}$        $\begin{array}{r} a \\ 0.08 \\ + d \\ 0.1 \\ \hline b \\ 0.15 \\ + e \\ 0.25 \\ \hline 0.3 \end{array}$

2.  $\begin{array}{r} g \\ 0.08 \\ + a \\ 0.1 \\ \hline c \\ 0.12 \\ + f \\ 0.15 \\ \hline d \\ 0.15 \\ + b \\ 0.25 \\ \hline 0.3 \end{array}$

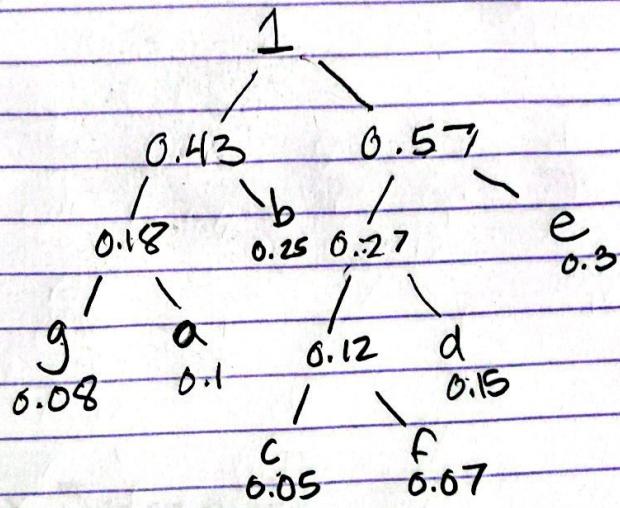
3.  $\begin{array}{r} 0.12 \\ + d \\ 0.15 \\ + f \\ 0.05 \\ 0.07 \\ \hline 0.18 \\ + b \\ 0.25 \\ + e \\ 0.27 \end{array}$

4.  $\begin{array}{r} 0.18 \\ + b \\ 0.25 \\ + a \\ 0.08 \\ 0.1 \\ \hline 0.12 \\ + d \\ 0.15 \\ + c \\ 0.05 \\ 0.07 \\ \hline 0.27 \\ + e \\ 0.3 \end{array}$

5.  $\begin{array}{r} 0.27 \\ + e \\ 0.3 \\ + d \\ 0.12 \\ + f \\ 0.05 \\ 0.07 \\ \hline 0.43 \\ + b \\ 0.25 \\ + a \\ 0.18 \\ 0.08 \\ 0.1 \\ \hline 0.43 \end{array}$

6.  $\begin{array}{r} 0.43 \\ + b \\ 0.25 \\ + a \\ 0.18 \\ + g \\ 0.08 \\ 0.1 \\ \hline 0.27 \\ + e \\ 0.3 \\ + d \\ 0.12 \\ + c \\ 0.05 \\ 0.07 \\ \hline 0.57 \end{array}$

7.



$$g = 000$$

$$a = 001$$

$$C = 10\ 000$$

$$f = 1001$$

$$d = 101$$

$$e = 11$$

## Problem 2:

1. 15

2. 15  
20

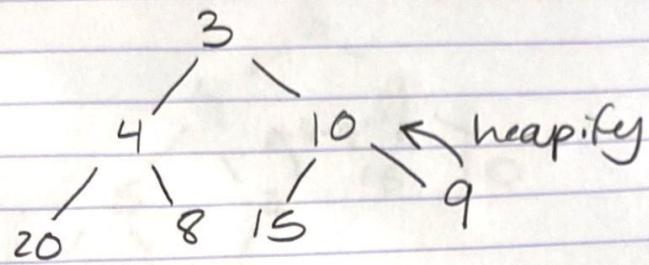
3. 15  
20 3 heapify

4. 3  
20 15  
4 heapify

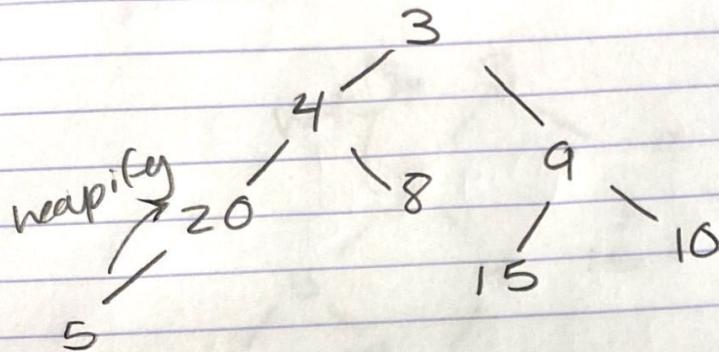
5. 3  
4 15  
20 8

6. 3  
4 15  
20 8 10  
heapify

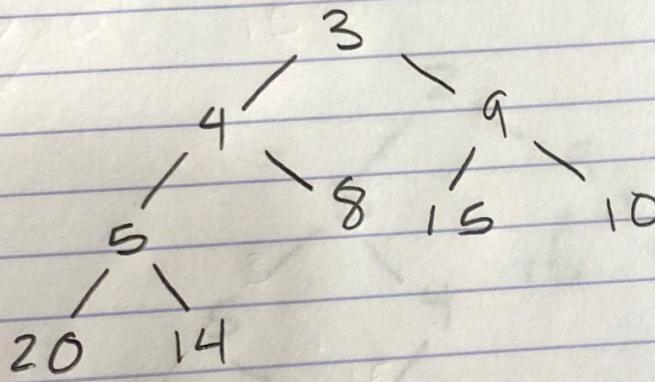
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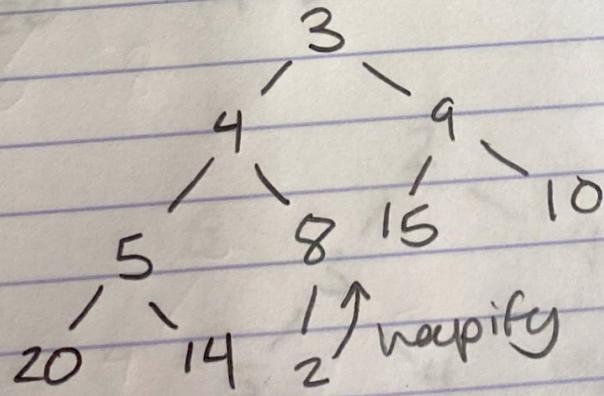
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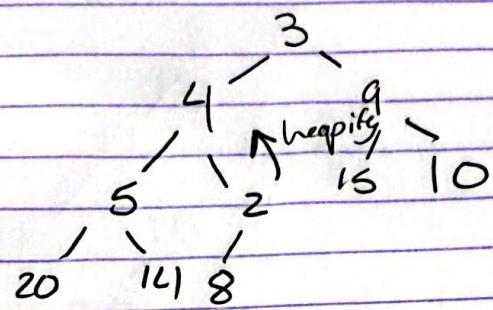
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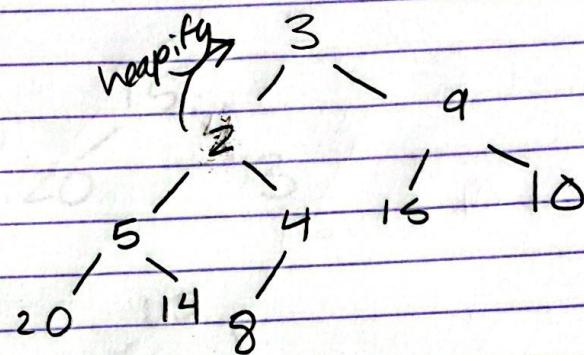
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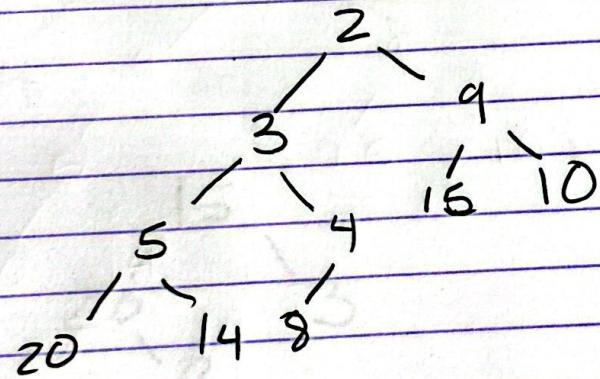
10.a



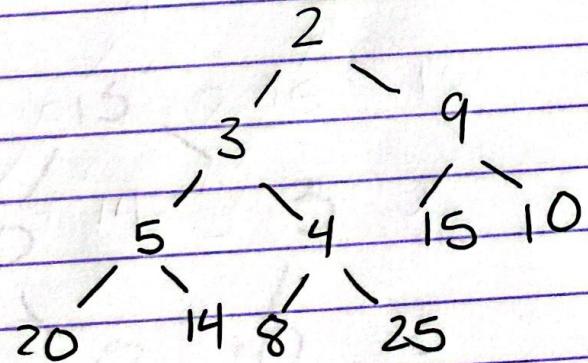
10.b.



10.c

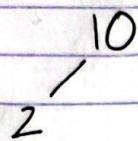


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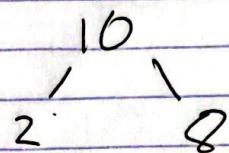


### Problem 3.

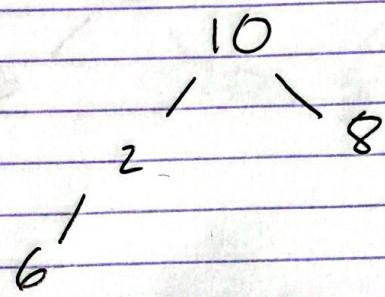
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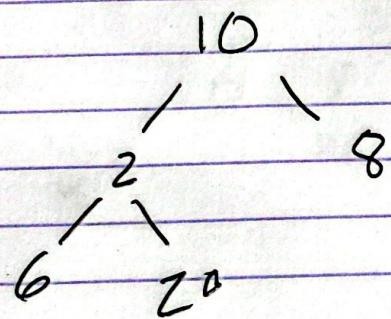
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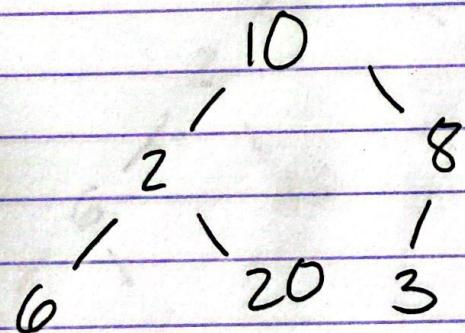
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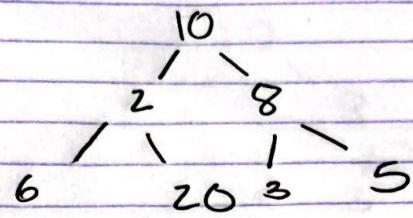
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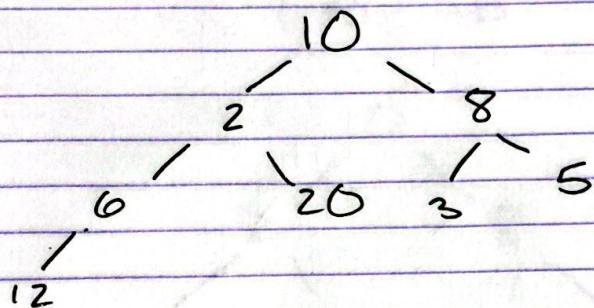
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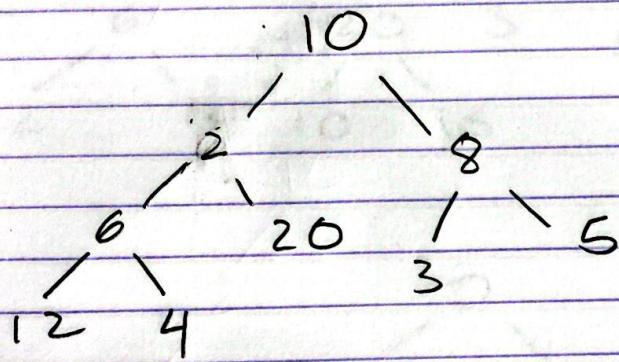
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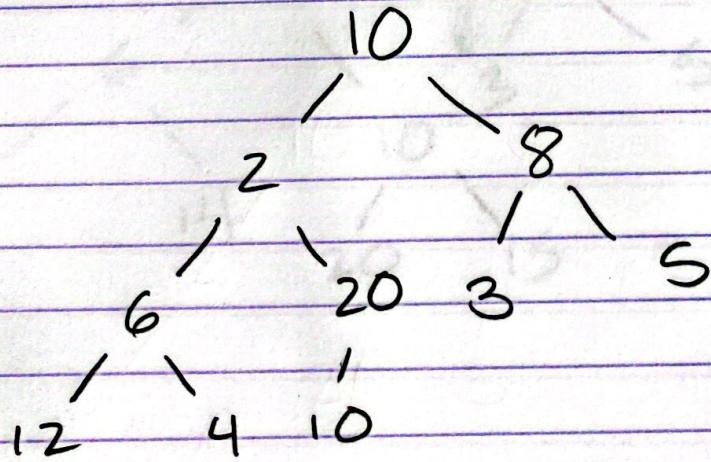
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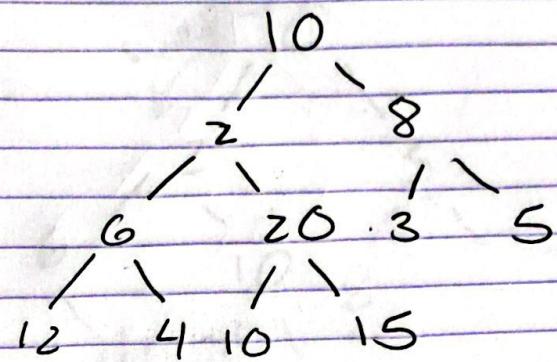
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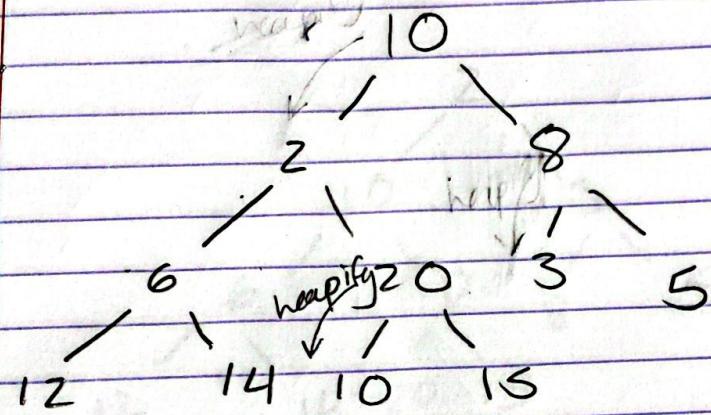
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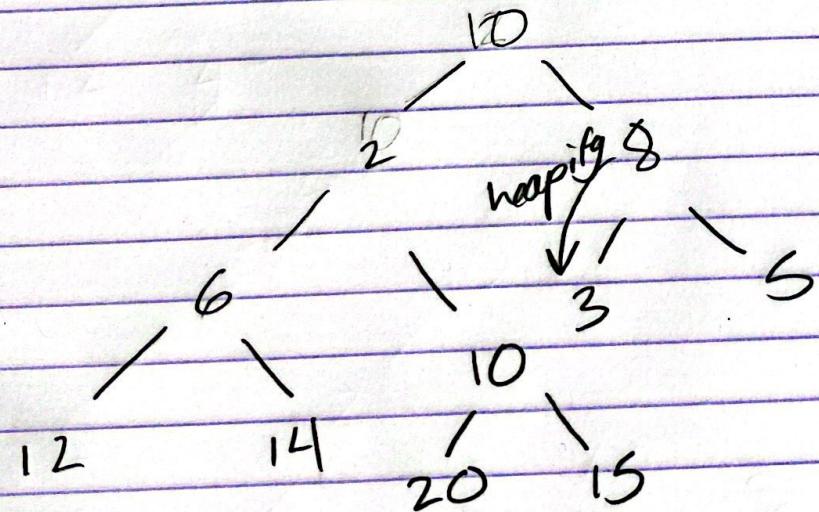
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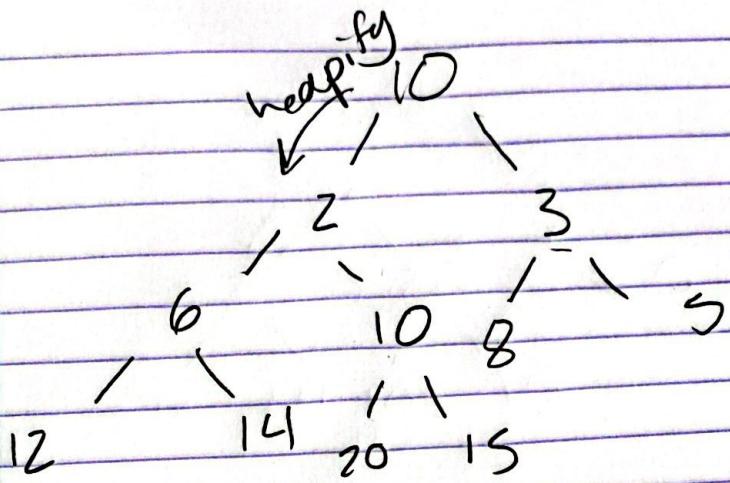
11.



12.



13.



14.

