

Questions

1)

a. For building a max 5 heap the worst complexity would be $O(n \log n)$ since it iterates through each element at least once and will iterate through the entire tree again at worst case the height of tree

b. For my implementation buildheap was called within it thus $O(\log n)$ would be worst case

c. For my implementation buildheap was called within it thus $O(\log n)$

d. For building a minmax heap the worst complexity would again be $O(n \log n)$

e. Buildheap was called in my deletemin thus $O(n \log n)$

f. Buildheap was called in my delete max thus $O(n \log n)$

2) For the most part average case complexity seems to be for all functions $O(n)$. This is because buildheap is called for every single function. Also build heap does not always have to be called height amount of times depending on how disorganized the tree is.